Human Relations in Administration[1]

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EVERY PROFESSIONAL group is becoming increasingly aware of the problems of working with people. A course in human relations has become a standard item in almost every professional curriculum. Our age is a people-conscious age.

The dietitian is no exception to the rule. Dietitians constantly deal with people. They perform critical functions as members of many institutional teams. Increasingly, as the dietitian takes on more important functions, she relates to a wider and wider variety of people—professional colleagues, administrators, students, cooks, waitresses. Part of her job is to influence the lives and behavior of others, whether this means change in institutional practices or change in the eating habits of people.

My assignment is to discuss human relations in administration—how people relate to each other in the processes of getting the job done. I should like to center my remarks around the significance of seven general concepts in human relations, concepts which, for simplicity, I will tag with the following seven words: people, perception, attitude, participation, boundary, climate, and training.

People

People are important items in the universe. The dietitian as an administrator must learn that people are more important than getting the job done, more important than dietary habits, and more important than administrative practices or rules. Frequently, in the process of learning the technical requirements of her professional role, the dietitian, as do other professionals, becomes more impressed with the thing-requirements of the professional job and the importance of technical competency than with the people she is to serve. People, *as persons*, thus lose focal significance.

As the dietitian takes on more and more supervisory and administrative functions—as she becomes more important in the institution in which she works—it becomes more necessary for her to learn to relate to people as *persons* and not as *tools* in getting the job done. This shift of attention from the job to the person is extremely difficult. The dietitian has been placed in her position because of her professional competency in getting the job done and because of her technical skill and knowledge, not particularly because she did a good job in living with people. The story of supervisory development and of professional growth is the story of accomplishing this shift of focus from things to people.

I recall a particularly dramatic committee meeting that I attended. Eight faculty members and students were assembled as a personnel committee to consider several disciplinary cases that had been brought before the dean. During a heated discussion as to the disposition of the "cases," the dean, who was chairman of the committee, was goaded into saying, rather vehemently, that "we are not dealing with people, we are dealing with regulations!" Now it seems to me that many of us, when placed in administrative situations, are inclined at moments of stress and low insight to find ourselves sympathetic with the unfortunate dean. The university could be such a pleasant place if it were not for the students! Administration could be so simple if it were not for people! The dining halls would be such orderly and satisfying places if it were not for the diners and the kitchen employees!

The dietitian-administrator, in spite of her many tensions and strains, must come to see that the world is made up of people and not regulations. Laws and regulations and administrative practices and dining hall customs must continually change to suit the changing attitudes and needs of the people in them.

At first blush, this principle may seem obvious and unnecessary to stress. In the long run, however, it seems to me that most mistakes in administration

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and in supervision arise from the failure to keep this fundamental point in mind. As man becomes increasingly an organizational animal, as he becomes increasingly enmeshed in the often-strangling encumbrances of the institution—he finds himself forgotten as a person and builds resistances in one form or another to living with groups and with institutional regulations. The administrator must be aware of the necessity of treating individuals as individuals and as persons of worth. Regulations must be tempered and modified by understanding, human feelings, and acceptance of the individual.

Nor can administrators succeed by being nice to people just to get more work out of them, by winning friends in order to influence people, or by getting things done "through people." *Each* of us needs acceptance and understanding and a feeling of self-worth. We forget this so often that we find an increasing number of people going to psychiatric sources for artificial injections of acceptance, understanding, and love. The psychiatrist, for a fee, will give the person the understanding and love that is refused him by busy and self-centered or regulation-centered supervisors, bosses, parents, or teachers.

Perception

To understand the supervisory or administrative role, the administrator must understand the tremendous significance that perceptions play in the behaviors of people. Administrative problems cannot be solved without an attempt to understand people. The people involved in the process cannot be understood without looking at the way they see each other, see the institution, and see the events in question. When this is done, people are seen to be of good will, of good intent, and to behave rationally in the situation.

Whenever individuals are looked at only from the vantage point of another person (e.g., the administrator, the antagonist, the subordinate), they are often seen to be willful, obstreperous, and irrational. The first task for any individual who is to bring understanding to the relationship between himself and another person is to attempt to put himself in the shoes of the other person. This is one reason that role-playing is such a significant step in executive training. People who try to empathize with the roles of others are starting in the direction of administrative growth.

Perceptions and feelings are facts. The administrator must learn to live in a world where the facts that confront him most often are the feelings and perceptions of people. This is an unfamiliar world for many who have learned to regard figures, charts, and calories as the *facts* of life. The most helpful starting place in administration is not what happened, but how the subordinate *sees* what has happened—not what the boss is "really" like, but how the subordinate sees him.

How we see the world is determined in large and significant part by our own attitudes and values, as well as by the institutional role that we take. We see things as *we* are not as *they* are. This means that an administrator, if he is to understand the perceptions of an employee, must make an effort to understand the needs and attitudes of that person.

Our perceptions will tend to shift with our membership in various groups. The hospital dietitian, by virtue of her background and training, will see events quite differently from the way the doctor—or the dishwasher—sees them.

A simple but dramatic experience helped me to see how my own perceptions were shifted by my role. One day, late for class, as I was driving into the University parking lot I found myself increasingly irritated by the swarms of students who were cutting across the lot and getting in the way of the cars. I found myself berating the pedestrians and questioning their rights to get in the way of the drivers. About 30 seconds later, after I had parked the car, I found myself walking across the lot in front of subsequent cars that were then entering the lot. I now found myself with great self-justification berating the drivers who were not waiting for us pedestrians who were trying to go about our important business. Here in a few seconds my attitudes and perceptions changed radically, in fact reversed themselves, due to my change in role from a driver to a pedestrian.

Perhaps there are some learnings here for us in our attempts to understand the Negro problem, the problem of student-teacher relationship, and the problems of relationship between dietitians and cooks, or perhaps between dietitians and business managers.

One must place himself in the role of the other in order to understand the human problems that occur in administration and supervision. The administrator must gather data on perceptions of people with whom he is involved if he is to understand properly his administrative role.

For regulations and rules to be understood, accepted, and lived with, people must see them in certain ways. A principle may be effective in one hospital because the members of the working team see the principle as developed jointly by all members of the team. The same principle may be resisted vigorously in the underground of another hospital because the members of the staff or team see the principle as imposed on them by an unsympathetic administrator. In this sense, reputation is more important than character. How things are seen is more important than how they hypothetically "are." If regulations and principles are to work in

practice, if behavior changes are to be achieved, they must be built out of the perceptions and attitudes of the people concerned.

Attitude

Underlying perceptions are fundamental attitudes that people have toward life, people, principles, and things. Our attitudes exist in service to and defense of our personality needs. Of central importance in the problems of administration are the attitudes that people have toward authority, toward leadership, toward institutions, and toward people.

The administrator's attitudes toward people play a large role in determining the theory and practices he adopts. For instance, one can easily see a constellation of administrative practices that grow out of fundamental attitudes that people are by nature indolent, lack ambition, are indifferent to organizational needs, dislike responsibility, and must be led and inspired for them to be motivated to work responsibly. These basic attitudes of distrust of people are likely to pervade the supervisor's administrative decisions. Conversely, the administrator adopts quite different practices and theory if he has fundamental beliefs that people are of good will, that they work hard and responsibly under ordinary circumstances, that they like to make their own decisions, that under most circumstances people are basically honest and well motivated. This person is likely to be oriented toward giving freedom, delegating authority, supporting subordinates, and setting wide boundaries. The distrustful administrator, in contrast, is likely to restrict his delegation, increase his supervisory and restrictive measures, and try to inspire and "motivate" people along lines he thinks they should move.

There is little function served, for instance, when speakers or educators try to persuade the administrator to become more "democratic" in his behavior if his basic attitudes toward people are authoritarian. The change must first come in his attitudes. One might even go so far as to say that the fundamental aim of human relations training is to start people on the road to behavior that would guarantee their having satisfying and positive experiences with people, it being assumed that consistent satisfying behavior with people would lead to the restructuring of attitudes. These new attitudes would form the base for new administrative behavior. There is little need to present administrators with experimental findings on delegation if they are attitudinally unsuited to delegation as an administrative policy.

Just as the administrator's attitudes influence his choice of administrative practices and theory, so do the attitudes of the people being "administrated" influence their behavior. For an individual to understand the behavior of the people with whom he is working, he must make an effort to understand their attitudes and resultant perceptions.

Participation

If a person's attitudes are such as to permit him to behave in a participative way, the administrator can gain much in job satisfaction and productivity by allowing maximum participation in the group he administers. Experiments clearly show that when groups become involved in setting their own goals, making their own decisions, and evaluating their progress toward these goals, people are more satisfied and work more productively.

It is significant to emphasize that one's fundamental attitudes toward people must be commensurate with one's administrative practices if principles of human relations are "to work." It is fashionable in some quarters to subscribe to the principles of "involvement" and "motivating people." A perversion of this point of view is expressed in something like the following: "The administrator should decide on the goal he wishes to accomplish and the path he wishes to follow and then use principles of involvement to get people to decide to accept that goal." For so-called participative methods in management to be effective, the administrator must be fully committed to the notion that subordinates, workers, or colleagues must be allowed complete freedom within the areas in which they are to make decisions. If the administrator attempts to hoodwink people into making decisions to which he is already committed, no amount of camouflage of these basically manipulative attitudes and practices can long cover up his fundamental attitudes or make these practices work in the long run.

There are two fundamental reasons for using participative methods in decision-making. First, when more people are involved in making a decision, it is likely to be of higher quality. Second, people involved in making a decision are likely to be more committed to carrying out the decision.

Boundary

One of the realities of organizational life is that groups must accept decisions made by other groups in the management hierarchy. There are some boundaries and limitations on the decision-making areas of any group. It is well that these boundaries be made clear. People should not be encouraged or allowed to make decisions that are the organizational prerogative of other groups.

At one university, the administration encouraged the students to discuss the problem of whether the university should go from the quarter system to the semester system. After many weeks of heated controversy, the students in the university voted about four to one to stay on the quarter system. The faculty discussed the same issue and after a similarly

long period voted about three to two to stay on the quarter system. Following these efforts at decision-making, the Board of Regents decided unanimously to go on the semester system. The reasons given for the decisions were reasons that existed prior to any discussion and were not reasons that were made public to the community before decision-making started.

The university administration would have been far more successful in carrying out its shift to the semester system had it simply announced on a given date the decision of the Board of Regents. If the faculty and students are to be allowed to make the decision, they should be encouraged to discuss it. However, if the decision is to be subject to higher reversal, then it is probably best that they not be encouraged to go through the forms of decision-making. Had either alternative been followed, less resistance and ill will would have been stirred up on the campus.

One problem of administration concerns the amount of work to be delegated. Most theorists advocate maximizing the amount of delegation. In any event, it is probably more critical to satisfaction and productivity for members of a team *to be clear* on the boundaries of their decision-making authority and delegation than to have more of it. Clarity is probably more significant than quantity.

The battle over areas of freedom starts early in life. Children are great boundary testers. They soon learn that the significant boundaries for them are not those established by the formal verbal rules of the house but the more intangible ones established in daily interaction with parents. Thus the child soon tests and finds out how many times mother will say "no" before she really means it. He learns to determine by pitch discrimination and other minimal cues whether mother *really* is giving a command or simply talking and hoping for the best.

The supervisor or administrator must delegate. The emphasis here is on the *must*. The supervisor mentally puts his work in three piles: one pile for the things he must do himself, a second pile for those things he delegates completely, and a third pile for those things he delegates and supervises. As the administrator grows, he learns to decrease the size of piles one and three and increase the size of pile two. In doing this, he increases his confidence in people. As his confidence grows, his ability to delegate increases and his need to hold tight reins decreases. The subordinate must be given a *maximum of freedom*. People thrive and grow under the feeling that they are free to make decisions *and* mistakes. More important, the boundaries of action must be clear. The administrator must clarify for himself and for his co-workers the boundaries of the three above circles. Ambiguity is both an organizational and a personal problem. It is not enough that formal, written agreements be clear. Everyone must *feel* his areas of freedom, his areas of delegation, and his areas where supervision is required.

Climate

The general climate in which decisions are made, goals are agreed upon, boundaries are clarified, and people live is a significant variable determining how people act. The effectiveness of an administrative act is often more influenced by the atmosphere in which the act occurs than by the act itself. If people feel trust, confidence, warmth, and support toward each other, they will accept and live with a wide range of actions. When people distrust each other and feel lack of interpersonal warmth, they will often misinterpret or resent even the most innocent remark or supervisory act.

One can think of administrative climates as being either "supportive" or "defensive." A person can set a supportive climate by listening, by communicating the willingness to work *with* others, by attempting to emphasize, and by giving emotional support and acceptance to the people with whom he is working. When people sense this support and this understanding, they accept and understand in kind. Such a climate tends to lead to growth, increased feelings of self-worth, reduction of interpersonal defensiveness, and greater productivity.

On the other hand a person can set a defensive climate by such behaviors as censoring, punishing, persuasion, hostility, and by giving advice before emotional readiness. This climate of defense tends to feed on itself and produce greater defensiveness. People become less perceptive, more defensive, less productive, and have lowered feelings of self-worth. Supportive climates produce personal growth, and defensive climates retard personal growth.

We are only beginning to understand the effects of the atmosphere in which people live and work on their attitudes, satisfactions, and productivity. We are not sure, experimentally, whether person-centering or job-centering leads to greater productivity. We do know that person-centering leads to greater satisfaction, greater growth, and greater feelings of self-worth. Given the choice, most people would rather live in a world where they had greater dignity and worth than in a world in which they had greater productivity. There is some evidence that we can have both.

Training

One responsibility of the administrator is that of producing a climate in which those around her can learn and grow in professional abilities. Job performance should have its own feedback process—work should lead to more effective work. When work is not leading to more effective work and profes-

sional growth, then there is an obligation on every administrator to help create the conditions under which growth can occur.

This generalization obtains not only for technical but interpersonal skills. People who work with others should be continually improving their abilities to work with others. The administrator is obligated to help establish the atmosphere and the administrative practices which permit working to be a training experience.

Work should be learningful and developmental. We do know a great deal about the conditions under which work becomes training—in which work leads to more effective work and interpersonal living leads to more effective interpersonal living. It is the solemn responsibility of the administrator to take the initiative in learning how to implement this process. The administrator has the central role in the achievement of a productive and democratic society.

BIOGRAPHICAL NOTES FROM THE HISTORY OF NUTRITION

Thomas Muffett—1553–1604

Thomas Muffett was an English physician who is believed to be the first to write a book devoted wholly to the subject of food and diet. The copy of his book in the British Museum has the impressive title *Health's Improvement; or Rules Comprizing and Discovering the Nature, Method and Manner of Preparing all sorts of Foods used in this Nation. Written by that Famous Thomas Muffett, Doctor of Physick; corrected and enlarged by Christopher Bennett, Doctor of Physick and Fellow of the Colledg of Physitians of London,* 1655. This book was published some years after Muffett's death, and was a chatty collection of maxims about diet and food habits that he had collected in his rather extensive travels and in his readings of other writers of earlier times.

The correct spelling of Muffett's name is uncertain because it is also variously recorded as Moufet and Moffett. His father was a citizen and haberdasher of London, and Thomas was the second son of the family. He received his early education at Merchant Taylor's School and then went to Trinity College, Cambridge (1569) and three years later transferred to Caius College where he obtained his bachelor's degree. At Cambridge, he studied medicine and after receiving his master's degree (1576), he went abroad. At Basle he attended medical lectures, wrote and published his thesis (1578), and received his medical degree. The next year he travelled in Italy and Spain and became so interested in silkworm culture that he wrote a poem on it. His wanderings on the continent continued for three more years; then he returned to Cambridge and received the M.D. degree. He was a strong supporter of the medical teachings and practices of Paracelsus (1493—1541).

Muffett soon had a good medical practice, first in Ipswich and then in London where he spent much time at the Royal Court, became acquainted with Sir Francis Drake, and had many aristocrats as his patients. He was elected a fellow of the College of Physicians in 1588.

Thomas Muffett was married in 1580 to Jane Wheeler of Worcestershire; she died in 1600 and Muffett took as his second wife, a widow, Catherine Brown. In his later years Muffett became a pensioner of the Earl of Pembroke who used his influence to have Muffett elected to Parliament.

Muffett's writings about diet supply information concerning the food and beliefs of that time. He tells of the use of powdered meat which he described as "very tough, hard and heavy." Bread and cheese, which were the chief foods of the poor, he speaks of as "the two targets against death." Butter he considered to be only suitable for growing children and not good for man. "Potatoes" were among the well known foods of that period, as were artichokes, radishes, and carrots. Melons, pears, apples, and plums were, according to Muffett, "tasting just of nothing."

On a trip to Denmark where he met Tycho Brahe, the great astronomer, Muffett noted that court dinners lasted for seven or eight hours. Muffett also wrote of the value of liver in the treatment of eye diseases, and his is one of the earliest references on this subject.

Muffett intended that his book on food would be followed with one on drink, but he died in 1604 without achieving that goal.

REFERENCES: Lee, S.: *In* Dictionary of National Biography, Vol. XIII. London: Smith Elder & Co., 1909; Prentice, P.: Hunger and History, N. Y.: Harper & Brothers, 1939.—*Contributed by E. Neige Todhunter, Ph.D., Dean, School of Home Economics, University of Alabama, Tuscaloosa.*

The Case Approach in Educating the Intern[1]

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***The essential fact which makes the case system . . . an educational method of the greatest power is that it arouses the interest of the student by making him an active rather than a passive participant.*—Dean Donham (1)**

BECAUSE THE dietitian lives and works in a constantly evolving sociologic and technologic world, the methods utilized in educating the dietetic intern should be based on this concept of a dynamic society.

A major objective of an approved dietetic internship is the development of a purposeful and comprehensive administrative point of view toward problem-solving and participative action in food service operations. The dietetic intern should be taught and should learn to employ administrative skills in analyzing and making decisions in the unpredictable, as well as the predictable situations she will encounter during her internship and throughout her professional career. The intern should be capable of applying effectively the problem-solving technique in situations in the internship in which she functions independently or as a part of a group. Her ability to participate in group discussions and in critical analysis and decision-making may be developed by the implementation of the case method of instruction in the dietetic internship. The Harvard School of Business has used the case approach as a means of teaching business administration for more than thirty years (2).

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The Case Method

A "case" is a written record or description of a business situation which has actually been faced by an administrator. The facts, opinions, and prejudices on which the executive had to base a decision are carefully presented to the reader. The student is required to analyze the case to determine what is going on and what the problem is. After an open discussion by the group, the participants make individual decisions as to what can and should be done in the situation described. In the case system of instruction, there is no one "right" answer; each problem must suggest two or more plans of action.

PURPOSE OF THE CASE METHOD

The objective of the case method of instruction in the internship program should be to increase the ability of the intern to work effectively with her superiors, associates, and employees. In order that she may learn to function cooperatively in a group, the "leadership" and "followership" potential of the intern should be developed in equal proportions. The director and the staff of an internship should share the responsibility of teaching her to assume the role of leader or the role of follower. She should learn to play either role competently and appropriately in the classroom and in the work situation.

The case structure may be employed to teach the intern to function effectively as a leader or a follower. The role she plays in the group discussions will be determined by her knowledge of the circumstances described in the case. The quality of her participation in respect to the problem presented for analysis and decision-making will also be important.

The director of the internship who uses the case system will be able to afford a coordinated program of classroom discussion and practical on-the-job training in the development of administrative and technical skills. The results of the program should be constantly evaluated to reduce the tendency of both the staff and the intern to concentrate on the technical aspects of the training situation. A disproportionate emphasis on the learning of technical material will sacrifice the development of the administrative potential of the intern.

Glover and Hower stated (3) that the capable executive is set apart by "his ability to think and act responsibly, to work effectively and with satisfaction within the group." Teaching the intern to think effectively, to look ahead and to anticipate what may happen should be considered as the subgoals of the internship. Only by growing in her ability to solve problems and to work with different types of people will the intern be competent to achieve the standards required by the profession of dietetics.

The case system of teaching administrative practices should increase the similarity between the demands of the work experience in the first years of professional life and the learning situations encountered in the internship. The educational process involved in the case method should encourage the intern to be an active participant. Learning is a result of doing. Learning may be a positive result of the integrated activities of the classroom and of the work situation when the program is based on the case structure.

The Harvard School of Business has reported that the student in business administration who was provided with opportunities to become involved in problem-solving and in group interaction developed understanding and judgment in recommending appropriate action in simulated business situations (4). The dietetic internship may offer a similar experience for the intern to acquire administrative skills by dealing with actual cases which are representative of the problems encountered in a dynamic food service operation. The effective implementation of the case method as a method of instruction should more adequately prepare the intern to adapt to a changing society. This objective may be accomplished by developing her potential to think and to act in an effective and responsible manner.

Change in the Classroom Process

Information about certain aspects of the case method of instruction may be of interest to the director and the staff of an internship. I propose the implementation of this method as an additional medium of teaching and learning in the program. Such an educational process should be an effective means of developing the administrative potential of the intern. The case system would provide a structure for the acquisition of leadership qualities within the existing framework of the internship situation. This unique instrument of learning could be gradually and effectively introduced into the existing curriculum on a limited scale with the minimum amount of adaptation of course content.

A teaching dietitian with a working knowledge of the techniques of group discussion and problem-solving should be selected to implement the system. Professionally trained food service personnel could be trained to collect material and to write cases pertinent to various phases of food service administration.

The assignment and discussion of cases in the classroom should receive consideration. A text or manual of cases treating actual situations in all types of food service organizations is not presently available. Such a publication which would specifically meet the needs of the dietetic intern in both the administrative and hospital internship would be highly desirable. One collection of cases in hospital dietary administration has been published (5). In addition, a few cases of general interest have been duplicated and distributed at regional and state dietetic association meetings.

The assignment of cases may be oral or written. Some instructors distribute assignment sheets which outline the elements of administration to be considered in the course; others make daily oral assignments. In either case, the teacher will find it purposeful to point out to the class the manner in which a case fits into the course outline. Undoubtedly, the instructor will want to accomplish this immediately after a case has been analyzed by the group. The routine practice of this procedure will facilitate the integration of the intern's learning in the classroom.

Customarily, the intern will elect to prepare for discussion by carefully and thoroughly reading and rereading a case. She may indicate major issues by making marginal notations and by underlining significant factors on the written cases. She may decide to present her critical analysis and tentative solution of a case in the form of a rough outline. If it is necessary during the class, the intern will then be able to check quickly the reasoning process she employed in her analysis to reach her proposed solution.

NUMBER OF CASES TO USE

Instructors who use the case method may differ in the number and length of written case analyses they require from the student. Most teachers will feel that lengthy written analyses are limited in their contribution to the intern's learning and that the preparation of these reports may be too time-

consuming in proportion to their educational value. Perhaps an occasional detailed written analysis will be felt to be purposeful. I suggest that the dietetic intern's efforts could usually be more profitably directed toward her rotating on-the-job learning experiences. Undoubtedly, an occasional written analysis will be worth while, and some instructors will feel that such analysis will result in a more careful and thoughtful preparation prior to the group discussion of a problem.

The case method of instruction should not become burdensome to the intern who already has a full schedule of activities. Experience at the Harvard School of Business showed that the student who thought reflectively and who developed a rough outline was adequately prepared to contribute satisfactorily to the classroom analysis of the case (2).

THE GROUP DISCUSSION

The group discussion may be opened with any one of several questions. An example of one question an instructor may ask is, "What is going on here?" Or, she may prefer to begin the class analysis with, "What is the problem?" A case may indicate that action is required, and the teacher may then ask, "What should be done?" The approach which the teacher will use will depend on the case, the subject, or the individual who will be responsible for stimulating the discussion.

Duplicated cases may have either specific or general questions for discussion following their presentation. In the future, the intern may be asked to comment on action taken in a food service organization or to propose a possible course of action to meet a problem presented in a case.

The class discussion will usually consist of breaking down the problem into its specific areas. In this way, several logical solutions may be developed through analysis by the group. An intern should not be permitted to develop a negative solution to a problem without first venturing to search for and to formulate a positive plan of action.

Instructors' policies may vary in regard to the intern's voluntary participation in the case discussion. One group may strongly feel an intern should participate at her own discretion, another that the non-participating member of the group should be drawn into the exchange. If the latter system prevails, the less vocal group member may expect to be called on during periods when the more loquacious student is asked to remain silent.

The goal of the case method of instruction is decision-making. The techniques should be developed both on an individual and on a group basis. The individual solutions should be developed prior to the group discussion; these decisions will often be revised during the interaction between the members of the class.

METHODS OF HANDLING CASES

The method employed in case discussion will depend on the approach the instructor chooses. The teacher will ordinarily vary her development of cases; her strategy will depend on the problem to be solved. The teaching dietitian may request that the intern render her proposed solution to a case in the classroom situation. The staff member may then ask the intern to justify her reasoning and the decision she has formulated. On the other hand, the teacher may engage the group in discussion and then suggest a solution based on the communication which has developed as a result of the foregoing analysis. Some of the participants may be asked to propose solutions to the problem; they may also be requested to explain the premises on which their decisions were formulated. The instructor or one of the students may summarize for the class.

In many cases, no group decision will be reached in order that each member may give the case further thought. On the other hand, the intern should realize that in an actual food service operation, the dietitian is often faced with a situation to which there appears to be no solution. Similar problems exist in most business organizations today.

The success of the case method of instruction will rest largely on the widespread participation of the class members in the exchange of ideas. The development of a fresh and lively discussion will depend on the ability of the instructor to establish rapport with the intern; the dietitian must also be able to stimulate effective interaction between one learner and another.

If this process is used to develop an administrative point of view, the instructor should aim to create a permissive atmosphere in the classroom. The intern should feel free to challenge the statements of fact or opinion which the staff member may present in the case analysis; the teaching dietitian will naturally feel free to question the reasoning of the intern about a case. The two-way flow of communication between the intern and the teacher will be a contributing factor to learning in the internship program.

Analysis and Organization of Case Material

The success of teaching by the case method in the dietetic internship and the technique of writing "good" cases will depend on the achievement of skill in analyzing problems properly. The capable analyst will learn to approach a problem in a manner which insures that all relevant and available evidence has been considered before decisions are made and the recommended plan of action determined. The teaching dietitian may wish to introduce the dietetic interns to a systematic approach to problem-solving.

The following is a method of analysis which has been recommended as one means of attacking a problem (6):

(a) Define and delimit the *central problem* or problems.

(b) Separate the central problem into its *major factors.*

(c) Analyze these aspects of the problem by formulating *logical questions,* by *searching for the facts* in the case, and by *weighing the evidence* in order to arrive at answers to the questions.

(d) Investigate *alternative* solutions to the problem.

(e) Use the decisions reached in regard to the factors of the problem to arrive at a *recommended solution* to the central problem.

The *central problem* in a case will be the basic issue involved, the effective solution of which does not require the analysis of a deeper and underlying problem. The analytical reasoning will depend on the definition and the delimitation of the central issue which is inherent in the situation. An attempt to arrive at an adequate solution to a food service problem without carefully defining the basic issue will be fruitless and wasteful, and the dietetic intern should learn that analytical thinking rests on her ability to carefully define and delimit the central problem. A problem may have two or more basic issues, none of which has any bearing on the others. In any case, a clear statement of the central problem or problems involved will simplify the analysis.

Training and experience in defining the basic issue in a case and on the job will help the intern develop her critical thinking ability. The complexity of many food service situations will require thoughtful consideration by the intern so that she may determine the central issue on which the analysis and the solution of the problem will be based.

Food service problems are rarely so simple that they may be solved by one line of reasoning. The complex problems are usually comprised of *major factors* and their related aspects. Case studies and difficult situations encountered on the job will be more effectively solved by separating the basic issues into their parts. Each major factor may then be analyzed with respect to its various aspects. By dividing the problem into its components, these factors may be studied in relation to one another.

Since the human mind will be able to consider only one thing at a time, this method of attack appears feasible and necessary. The intern will waste time and effort unless she learns to approach a problem in its parts rather than as a whole. When she learns to define the central problem, to divide the basic issue into its parts, and to focus her analysis on one detail at a time, she will have developed an awareness of the problem-solving technique. If the case is broken down into its major factors, the solution of the total problem will become the solution of its parts.

After the central issue has been separated into its component parts, the next step will be to formulate a set of logical questions. These inquiries will enable the analyst to consider systematically the effect of each factor which is a part of the basic problem. A concise statement of the central issue will be helpful as a basis for determining questions which will be pertinent to each aspect of the situation.

Particular attention should be given to developing questions which may indicate the relationship of one factor to another. Questions should also treat the importance of one aspect of the basic issue in comparison with the other aspects of the problem. The analyst should deliberate as to whether a single factor or a combination of factors may affect other departments of the organization.

At this point, the intern will have a clear definition of the problem, and she will have divided the basic issue into its parts. In addition, she will have prepared a series of questions to serve as a basis to investigate thoroughly the factors on which the decisions of the problem will rest. Consequently, the student will have a foundation for exercising judgment in making her decisions in the case study or on the job.

The majority of cases will contain the facts necessary to analyze a problem adequately. However, a particular case presentation may obscure the relevant and highlight the irrelevant. The evidence may not always be readily apparent; the intern will usually need to *search for the facts.* With the case method as well as in the actual work situation, discernment of significant facts will be one of the principle tasks involved. The intern's analysis will be facilitated if the evidence is listed as a pro or a con of the questions which are developed; these inquiries will be based on the significant factors of the central problem. When the arguments for and against a question have been systematically presented, the final conclusion may be more easily reached.

The teaching dietitian will want to stress objectivity in teaching the problem-solving technique. She may emphasize that most questions in a food service problem will have a pro and a con and that the intern should not allow bias to direct her analysis to a preconceived conclusion. Effective factor-analysis should be objective until arguments for and against a particular question have been completed. If the intern follows this procedure in arriving at decisions based on facts rather than on opinions, feelings, or assumptions, her analysis will be objective.

When the dietetic intern has applied all of the

relative facts in the case to the significant aspects of the problem, she will be able to begin her decision-making. In weighing the evidence, she may consider whether one factor is more important or involves more risk than other aspects of the situation. If one set of arguments appears to be more conclusive then another, the intern will want to determine objectively the logical process which led her to make the judgment. When the intern has logically reviewed the major factors of the case, she will be able to arrive at a reasonable solution to the central issue which will be supported by the facts.

A simple case may have *alternative solutions*, but the evidence may readily point to the logical plan of action. In the more complicated situation, the analysis of the factors may indicate one or more possible solutions. The dietetic intern should learn that the majority of administrative problems offer a choice of decisions. There is rarely only one right answer to a problem.

The final step in problem-solving will be to assemble the decisions reached in regard to the major factors of the central problem in order to formulate a *recommended solution*. The intern may want to prepare a series of questions in order to reach a possible solution to the central problem. It will be necessary to determine if one factor is more significant than the others and which are the more important aspects of the situation. The intern may need to ascertain if any of the factors are interrelated. When questions are carefully formulated and objectively answered, the intern will be apt to reach an unbiased conclusion based on facts.

The intern's organization of the written analysis of the problem will be important. While a factor analysis of the major aspects of the problem may be helpful, an outline of the reasoning process will be more effective in presenting the material (6). An outline should be logically arranged to clarify the evidence, the arguments, and decisions used as a basis for the conclusions.

A thorough analysis should include all of the major factors considered in arriving at a decision. The advantages and disadvantages of the alternative solutions should be included in the intern's outline of her critical thinking.

The case presentation should set forth both the pro and the con arguments in respect to the significant issues which are parts of the central problem; a complete analysis should not be biased. Each factor of the case should receive adequate consideration so that the instructor who reviews the analysis may be aware of the student's pattern of reflective thinking.

Conclusion

The educational methods employed in the dietetic internship should prepare the intern to adapt to a changing world. She should be prepared to meet the present and the future demands of the profession of dietetics. The case method of instruction may be an effective means of developing the administrative potential of the dietetic intern. By this process, the student may learn to take appropriate and decisive action in solving problems throughout her professional career.

Sit down before the facts as a little child; be prepared to give up any preconceived notion; follow humbly wherein and to whatever abysses nature leads or you shall learn nothing.—Thomas Huxley

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The Food Industry—A Business Barometer

Both steel and automobiles have now taken a back seat to the food industry as the nation's leading industry and barometer of its economic condition. Nearly a third of all American workers today depend on food processing for part or all of their livelihood. The food industry's growth has even exceeded that of the population. During the past fifty years, our population has increased 90 per cent, but the food industry has not only met this challenge, but made possible a 15 per cent per capita increase in food consumption. In 1958, total sales in the food industry were $75 billion, according to the Grocery Manufacturers of America, as compared with $16 billion in 1939 and $7 billion in 1908.—*From Business Conditions Weekly* (Alexander Hamilton Institute), December 1, 1958.

II. A Sample Case Analysis

The Case Approach in Educating the Intern[1]

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In the preceding paper, the author has defined the case method, explained its advantages as an educational tool in the dietetic internship program, and described techniques for using it in preparing interns to meet administrative problems in their professional life. In this article, she presents a problem encountered in a mythical institution, Calhoun State Hospital, and details how the problem was solved using the case method. —EDITORS' NOTE.

Scene I

MRS. GREEN fastened the buckle on her coat as she prepared to leave her office in the Main Building of Calhoun State Hospital. As the chief dietitian at Calhoun State Hospital, she was making her regular Thursday inspection of the Food Service Division.

Throughout the morning, she had been trying to decide whom she would choose to fill a newly-created position. She was trying to select a capable supervisor to act as a division coordinator for personnel and equipment. The position would require someone who had had considerable experience in supervising food service personnel.

Calhoun State Hospital is comprised of the East and West Units as well as the Main Building. The distance between each unit is approximately two blocks. Each unit contains a kitchen and a dining room for either patients or personnel. The East Unit prepares food for employees; the West Unit accommodates the professional staff; and the Main Building Unit provides for the ambulatory patients able to come to the dining room. Each unit prepares and sends food to patients who require trays served on the ward. The hospital has been filled to its bed capacity of 925 patients for the past month. Forty per cent of the patients are ambulatory.

An administrative dietitian is in charge of each unit. Assistant staff members serve as therapeutic dietitians and relieve the dietitian in charge of each unit. In addition to the professional staff, each unit has an experienced foreman who is known as a "lead supervisor." The lead supervisor is accountable to the administrative dietitian of each unit.

As Mrs. Green arrived at the kitchen of the East Unit, a mess attendant opened the door for her. She asked the employee to tell Mr. Hinckley, the foreman, that she was ready to inspect the kitchen and the dining room. As the lead supervisor, Mr. Hinckley is responsible for making personnel assignments and keeping personnel records as well as for sanitation, safety, and equipment. He is accountable to Miss Taylor, the administrative dietitian. During Mrs. Green's inspection tour, Miss Taylor was conducting a training conference for the dietitians of the hospital.

Mr. Hinckley is thirty-eight years old and has worked in the food service field for fourteen years. Miss Taylor feels that he is too rigid in his thinking, but she has often expressed the opinion that he is unusually interested and responsible in his job. They have worked together for three years. Mrs. Green has found him to be an exceptionally alert individual in spite of his limited education. The assistant supervisors respect him.

As Mrs. Green noted the cleanliness of the cafeteria counter, she realized what good work the East Unit personnel are doing. The equipment and layout in the kitchen and the dining room are poor. She also remembered how many inexperienced employees she has been forced to send to the unit in her two years at Calhoun. Miss Taylor and Mr. Hinckley have always been able to get the job done. Mrs. Green has often noticed that Mr. Hinckley welcomes a challenge. In fact, he seems to derive extreme satisfaction from accomplishing a mission when the odds are against it. As Mrs. Green inspected the refrigerators, she commented to Mr. Hinckley on their orderliness.

[1]A portion of a thesis submitted in partial fulfillment of the requirements for the degree of Master of Science, Michigan State University.

While she checked the range area, she thought of the telephone call she had received before she left her office. For the second time that week, the Personnel Section of the hospital had called to report Mr. Hinckley's lack of consideration in speaking with his employees. Mrs. Green knows that the head of the section dislikes Mr. Hinckley. However, she feels that although he was not in error, undoubtedly, he should have shown more understanding of the employee's position. She realizes that the majority of the East Unit personnel are afraid of Mr. Hinckley. On the other hand, she has heard that he sometimes teases old and trusted employees when he is in a good humor; she feels that this would rarely occur. However, Miss Taylor has told her that the other employees have resented Mr. Hinckley's favoritism. Nevertheless, Mrs. Green cannot forget that Mr. Hinckley has often gone directly to Mr. Wrigley, Superintendent of the hospital, with an East Unit food service problem without first consulting her, and that Mr. Wrigley has usually asked Mr. Hinckley to accompany his party on hunting trips.

As she jotted down some notes regarding the discrepancies in sanitary procedures which she had observed, Mrs. Green tried to recall what she had been told about the reaction of the hospital employees to the food which was served in the East Unit. She remembered that her friends in other departments have mentioned that their employees enjoy the food and atmosphere in the East Unit dining room. On the other hand, she realized that the workers who eat in this unit have also commented on the rigidity with which Mr. Hinckley enforces the policies of the food service section as well as the rules of the hospital.

Scene II

Mrs. Green put on her coat to go to the West Unit. As she walked along, she thought of the decision which she must make that day in regard to the selection of a division coordinator. She greeted Mr. Jay as she arrived at the rear entrance of the West Unit kitchen. He was on the loading dock checking the interior of a garbage can. He has been the lead supervisor of the West Unit for twelve years.

Before Mrs. Green began her inspection, she went to the dietitians' office to hang up her coat. She remembered that the dietitians were at the training meeting which Miss Taylor was conducting. As she moved forward to rejoin Mr. Jay, she again marveled at the excellent equipment and layout of the West Unit. It was apparent to her that Mr. Jay repeatedly inspects all areas of the operation.

Miss Snodgrass, the administrative dietitian, and her staff have said that if a dietitian mentions a problem to Mr. Jay, the situation is taken care of immediately. There is never any need to recheck his work. In reality, it is rarely necessary to call a problem to his attention; he usually notices and takes care of such situations without being told to do so.

It is generally known by the staff that the employees are afraid of Mr. Jay. Mrs. Green knows that if a worker does his job properly and thoroughly, he would have no difficulty in the West Unit food service. However, any major or minor infraction of the rules is recorded in Mr. Jay's black book for permanent reference. The policy is always the same, no matter how trusted and loyal the employee. Mr. Jay has always been fortunate enough to receive the most apt personnel available, and he has been allowed to send his undesirable workers to the other units. The head of the Personnel Section of the hospital considers the discipline in the West Unit food service operation to be very severe. However, visitors to the unit have often commented that it is so spotless one could safely eat from the floor.

The amount of supplies per capita used in the West Unit is far below the consumption in the other units. While Mr. Jay takes excellent care of equipment and enforces the conservative use of china and paper goods, he keeps the extra portion of his allotment hidden in the attic. He never offers to lend personnel, equipment, or supplies to the other units, even though he realizes that they sorely need help. Insofar as possible, the West Unit food service activity is operated as a self-contained entity.

The professional staff who eat in the West Unit dining room have often commented to Mrs. Green on the excellent food. On the other hand, they have also criticized the curtness of the employees who serve on the cafeteria line. When the personnel have been reprimanded for this, they have complained that the doctors and nurses are always fussing. Mrs. Green feels that the atmosphere in the unit is cold and threatening. However, the dietitians who work in the unit feel that Mr. Jay has an excellent sense of humor and they enjoy his wittiness.

As she continued her inspection in the West Unit kitchen, Mrs. Green discovered a soiled cloth in a container on the clean pot rack. To find a single discrepancy in the unit was unusual. Mr. Jay asked Mrs. Green not to record this incident in the weekly report which she circulated to the three food service units. He has prided himself on not having had such a notation on the report for a period of three months. While Mr. Jay was talking to her, Mrs. Green was thinking that she had never seen a more efficiently operated food service activity than the West Unit. She has been a dietitian for eighteen years.

Scene III

Mrs. Green picked up her coat from the dietitians' office and returned to the Main Building. She went directly to the office of Mr. Masterson, the lead supervisor of the Main Building Unit. She waited

in the hall as Mr. Masterson listened attentively to Gary Jones, a young employee, whose recent domestic difficulties have affected his job performance and work attendance. Mr. Masterson finally told the young man to let him know how the matter worked out and offered to be of help. The young man gave Mr. Masterson a sad smile of appreciation and left the office. Mrs. Green recalled that Gary's last efficiency report had been excellent.

As Mrs. Green entered the office, Mr. Masterson asked her to have a chair. After she was seated, he gave her a pen and a letter to sign. While she wrote her name, she thought what a relief it was to have one lead supervisor who was able to prepare correspondence.

Mr. Masterson is forty-two years old and has been at Calhoun State Hospital for seven years. The younger dietitians have commented to Mrs. Green that they feel Mr. Masterson does very little work. They have said he is always chatting with people and that his desk is usually empty. Also, he rarely speaks when he meets one or more of the younger dietitians in the hall. They have wondered if this is due to his impaired vision or if he simply chooses to ignore them.

The older and more mature dietitians often ask Mr. Masterson's opinion on important matters. The administrative dietitian, Miss Watkins, feels that he is fair with employees, but loyal to his superiors. Mrs. Green has often heard his assistant supervisors come to him with questions and suggestions. She has also noticed that the majority of employees feel free to approach him with their inquiries and ideas for improvement. The head of Personnel has mentioned to her how easy it is for him to get along with Mr. Masterson. The superintendent has asked Mr. Masterson to join his hunting group on several occasions. Mr. Masterson has not, however, used this personal relationship as a lever in the business situation and seems to be skillful in separating the social and business aspects of his life.

Mrs. Green and Mr. Masterson took the elevator to the Main Building kitchen. Before they left the elevator to begin the inspection of the kitchen, Mrs. Green asked Mr. Masterson for his opinion as to the type of garbage cans they should order on the next requisition. He volunteered to check the catalogues and to submit his recommendations to her that afternoon.

While they jointly checked the kitchen, Mrs. Green stopped to taste a new recipe for soup at the request of an old employee. She thought it was very good, but then, she had always considered the food preparation in this unit excellent. As she put down her spoon, she quickly glanced around this modern unit. She commented to Mr. Masterson on the few minor discrepancies in sanitation which she had found.

Mrs. Green and Mr. Masterson entered the dining area as Mr. Hinckley, the lead supervisor from the East Unit, came in the other door. He and Mr. Masterson talked for a few minutes about a personnel shortage in the East Unit kitchen. Mr. Masterson offered to send one of his employees to the East Unit for the day. Mrs. Green recalled that Mr. Hinckley and Mr. Jay usually come to Mr. Masterson when they need help of any kind.

She noticed that the orthopedic patients coming toward the cafeteria line were laughing and joking with one another. The nurses on the wards have told her that the patients seem to enjoy the food in the Main Building dining room. The patients have also commented to the nurses on the friendliness of the Main Building food service personnel.

Scene IV

Mrs. Green left the dining room and returned to her office on the first floor. After she had placed her coat in the closet, she sat down to make a decision as to whom she would select as the new division coordinator for personnel and equipment.

Her approach was that of the case method, described in the preceding paper. She first defined the central problem, then separated it into its major factors, analyzing the various aspects of the problem, so that her decision could be based on sound judgment resulting from consideration of all pertinent facts and alternative solutions. Her analysis could be outlined as follows.

The Problem

Who should be selected and promoted to the new position of division coordinator?

Factor Analysis

1. How do the three lead supervisors compare in human relations skills?

Mr. Hinckley

PRO	*CON*
(1) Mr. Hinckley has the respect of his assistant supervisors.	(1) The Personnel Section has reported Mr. Hinckley's lack of consideration for employees.
(2) Miss Taylor has expressed the opinion that he is interested and responsible in his work.	(2) The section head of Personnel has expressed a dislike for him.
(3) Mrs. Green has noticed that he welcomes a challenge.	(3) Mrs. Green has realized that the majority of employees are afraid of him.

(4) Miss Taylor has felt that the employees resented his favoritism to a few.
(5) Mrs. Green knows that he has gone directly to the hospital superintendent with food service problems.

SUMMATION: Mr. Hinckley does not show outstanding ability in interpersonal relations; he appears to be an autocratic type of leader.

Mr. Jay

PRO

(1) The dietitians feel that Mr. Jay has a sense of humor.

CON

(1) The staff realizes that the employees are afraid of Mr. Jay.
(2) He has never offered to lend assistance to the other units.
(3) The head of the Personnel Section has spoken of the severe discipline in this unit.
(4) Mrs. Green feels the atmosphere is cold and threatening in the West Unit.

SUMMATION: Mr. Jay does not exhibit superior ability in interpersonal relations; he appears to be an autocratic type of leader.

Mr. Masterson

PRO

(1) Mr. Masterson's treatment of Gary Jones shows employee consideration.
(2) The more mature dietitians have often asked his opinion.
(3) Miss Watkins thinks that Mr. Masterson is fair to the employees and loyal to his superiors.
(4) His assistants come to him with questions and suggestions.
(5) The majority of his employees feel free to approach him.
(6) The head of the Personnel Section has said that it has been easy to get along with him.
(7) The hospital superintendent has asked him to join his hunting trips.
(8) Mrs. Green recalls that the other lead supervisors have come to him for assistance.

CON

(1) Mr. Masterson has rarely spoken to the younger dietitians.

SUMMATION: Mr. Masterson has superior skills in human relations; he is a democratic type of leader.

Conclusion: Mr. Masterson surpasses Mr. Jay and Mr. Hinckley in human relations ability.

2. How do the lead supervisors compare in technical knowledge and ability?

Mr. Hinckley

PRO

(1) Mrs. Green has noticed what a good piece of work the East Unit has done with poor equipment and layout as well as inexperienced employees.
(2) Her friends in other departments have told her that their employees enjoy the food in the East Unit.

CON

(1) Mrs. Green considers Mr. Hinckley's educational background to be limited.
(2) She has jotted down a few discrepancies in sanitary procedures after her inspection of the East Unit.

SUMMATION: Mr. Hinckley has more than average ability in regard to the technical aspects of the job. He has a limited education but has done a good piece of work under adverse conditions.

Mr. Jay

PRO

(1) Mrs. Green has noticed that Mr. Jay repeatedly inspects all areas of the operation.
(2) He immediately takes care of a problem when it is pointed out to him. He usually notices a problem before being told of its existence.
(3) Visitors comment that the unit is spotless.

CON

(1) Mrs. Green has noted only one minor discrepancy in sanitation in the West Unit on her report in a three-month period.

(4) Mr. Jay takes excellent care of equipment and conserves supplies.
(5) The professional staff have commented on the excellent food in the West Unit.
(6) Mr. Jay prides himself on the lack of sanitary discrepancies in respect to his unit in the weekly reports.
(7) Mrs. Green thinks that she has never seen a more efficient food service operation than the West Unit.

SUMMATION: Mr. Jay shows exceptional ability in carrying out the technical aspects of the job.

Mr. Masterson

PRO

(1) Mrs. Green feels that Mr. Masterson is the only lead supervisor who is able to prepare correspondence for signature.
(2) The older dietitians often ask his opinion on important matters.
(3) Mrs. Green has asked his opinion regardiing the next requisition of garbage cans.
(4) She thinks that the food is very good in the Main Building Unit.
(5) The ward nurses have told Mrs. Green that the ambulatory patients enjoy the food prepared in the Main Building Unit.

CON

(1) The younger dietitians feel Mr. Masterson does very little work.
(2) Mrs. Green noted a few minor discrepancies in sanitation in the Main Building Unit as she made her regular inspection.

SUMMATION: Mr. Masterson demonstrates knowledge and ability in all of the technical aspects of his work. He has ability to prepare correspondence. Superiors ask his opinion in respect to important matters.

Conclusion: Mr. Jay appears to excel Mr. Hinckley and Mr. Masterson in technical ability with one exception. Mr. Masterson surpassed him in correspondence ability. Mr. Hinckley's job performance under adverse conditions has been considered.

Final Conclusion

Mr. Masterson appears to be the best available supervisor to serve as division coordinator. Mr. Jay's more exacting standards with respect to the technical aspects of the job have been weighed. The adverse conditions under which Mr. Hinckley has worked have been considered. The scattered physical plant in which the food service division exists indicates that a democratic type of leader will be more effective. Since all lead supervisors are capable in the technical aspects of their work, this will be a minor consideration. The ability to get along with people will be the major consideration. Mr. Masterson has been selected as the most likely candidate on the basis of his superior skill in interpersonal relationships.

Cottage Cheese Facts

In the first ten months of 1958, approximately 1 billion lb. cottage cheese were produced in this country. It is a product which has enjoyed increasing popularity within the past decade. In 1957, it accounted for 38 per cent of total pounds of all cheese made in this country, compared with 24 per cent in 1947. Dollar value of cottage cheese has also advanced—from $189 million in 1955 to $217 million in 1957.

Cottage cheese is a term used to include both cottage cheese curd and creamed cottage cheese. *Cottage cheese curd* (sometimes called pot cheese, Dutch cheese, or Schmierkäse) is a soft, uncured, white cheese made by the action of lactic acid-producing starter, with or without rennet on pasteurized skim milk and/or nonfat dry milk, heated, washed, and drained. It may or may not be salted. It must not contain more than 80 per cent moisture. *Farm cheese, farmer cheese,* or *pressed cheese,* is essentially the same as cottage cheese curd, except that it is often made with whole milk and the curd is pressed so that the cheese may be sliced.

Baker's cheese (sometimes called hoop cheese) is made from skim milk. Although similar to cottage cheese curd, it has a finer grain and contains more moisture and acid, because the curd is usually not washed and cooked, and is drained in bags rather than in vats.

Creamed cottage cheese is produced by blending cottage cheese curd with a dressing made of pasteurized cream or pasteurized cream mixed with milk and/or skim milk to give the finished product not less than 4 per cent fat by weight and not more than 80 per cent moisture.—*From Rachael Reed, Director, Consumer Services, The Borden Company, New York City.*

Work Simplification—
A Means to Improvement[1]

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in Charge of Factories,
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IN THIS era of keen competition, it is necessary, in order to exist, for industry and business alike continually and conscientiously to strive to make improvements—not only in our products and services but in our methods of producing these products and their distribution and in the over-all morale of the organization. This is progress. The only way we can progress is to make changes. Changes are the products of people's ideas. Civilization itself is essentially a record of man's creative ability, with imagination the cornerstone of human endeavors.

Every dietitian, regardless of the activity she may be engaged in, whether in school lunch or a large hospital, is responsible for continuous improvement in her area.

We, in our factory division at Sears, Roebuck and Company have chosen the work simplification approach as one means of accomplishing our objective of improvement—a better product, at the right time and at the right price. The only way to accomplish this goal is to create within the organization an atmosphere of friendliness, understanding, and teamwork. An effective work simplification program will do just this.

There are many concepts of a work simplification program; some consider it an efficiency drive, a speed-up program, a cost-reduction scheme, a glorified suggestion system, or an engineering "expert-ing" program. However, a well organized and effective program is *none* of these. We think of it as being a philosophy, a way of *thinking*, which must be instilled in the total organization.

Work simplification is based on the concept that *people* are the most important asset to the success of the organization, and that "people do best the things that they enjoy." Our work simplification program gives them the opportunity to *participate* in the solution of their problems, thus giving dignity to each and every one. The whole basis of an effective program is participation not by just a few, but by *every* person in the organization.

Our particular program, which is more or less patterned after that of Allan H. Mogensen of Lake Placid, New York, has been presented to the workers in several of our factories, our mail order house in Philadelphia, one of our warehouses, and as a public service, to several hospitals in the Chicago area. We have found that wherever human intelligence and energy are required, work simplification techniques will apply. The common denominator between factory work, office work, work in the dietary field, in a hospital, or even in the home, is the employee.

Since work simplification is based on participation, in our very first conference, the group is given a problem to solve. It may be the task of placing thirty pegs in a board, butter chips on a tray, or perhaps test tubes in a rack. One person, after the group volunteers to help, is asked to perform the task in the best way he or she knows how. Generally the performance is timed by one of the other participants. Following the demonstration, most groups react spontaneously. Others soon take over and offer their ideas for improvement with the leader left in the background. Additional kits are added to the demonstration, which results in sub-groups forming and competing with one another. Various methods are tried out by the sub-groups, the result of which is a gradual improvement not only in the time but in the ease of doing the job.

Philosophy of Work Simplification

After a group has established its method, an open discussion follows, which becomes the group's philosophy of work simplification. A list is made on the board of the remarks, which can generally be summed up as follows:

(a) "It's fun to participate in group activity." Most people enjoy taking part in group activity. If people derive enjoyment from their job, their *esprit de corps* will be high. It makes the individual feel that his ideas are *needed* and that he is a part of the

[1]Presented at the 41st Annual Meeting of The American Dietetic Association in Philadelphia, on October 23, 1958.

organization in an important way, instead of just another anonymous person lost in the crowd. By giving each one a chance to participate and a sense of importance, he can be attracted to a program, his interest in ideas can be aroused, and his desire to carry out ideas can be heightened.

(b) "It's natural for most people to want to improve." A work simplification program offers one an opportunity to improve, encouraged by judicious doses of encouragement. A major reason why people do not make use of their natural abilities is because of emotional barriers. These inhibitions may be fear of loss of job, of a cut in pay, of ridicule, or fear that their ideas will not be sound. Such attitudes become stumbling stones on the road to progress. Emotional blocks include the tendency so many of us have to undermine our own creativity by self-discouragement. Participation in a good work simplification program brings out our natural desires to improve by substituting enthusiasm for inhibitions. Remember, "enthusiasm is contagious."

(c) "We learn from others." Organized group participation offers one of the most effective means of communication of ideas. By taking part in a work simplification program, people learn to recognize the ideas of others and discover the real value of team work. One of our mottos, is "No one of us is as smart as all of us."

(d) "It is not *what* you do, but the *way* you do it that is important." Participation in a problem demonstrates this very dramatically. Most groups will more than double their productivity as they team up to solve a problem. Productivity more or less depends on the *method*. Generally speaking, the method that takes the longest is the hardest, while the one requiring the least time is easier (work simplification). A good program will place direction markers on the road to finding an easier way, thus eliminating waste of time, energy, and materials. It will encourage people *not* to "work harder" but to "work smarter" because it is *easier*. Work simplification techniques instill in participants a sincere belief that "there is always an easier way." This, they discover for themselves as they "live" work simplification.

(e) "It is not *what* you say but *how* you say it." Unrestricted channels of communication are evident as the demonstration progresses. Everyone in the group will have something to say. They communicate with each other as they progressively work out an easier method. One of the main objectives of a work simplification program is to motivate people by developing a sincere *desire* to improve. Surely, you can't motivate successfully unless you communicate effectively.

Participation in solving any type of problem gives a group the opportunity to live, feel, and understand the philosophy of work simplification. Each member develops a feeling of belonging, of being a somebody, a member of the team. This improves *morale*. Remember morale is the way people feel. If they "feel good" about something, they will work with a higher spirit and will get more done. High morale in an organization is one of the most precious ingredients to its over-all success. We at Sears feel it is a competitive advantage, something you just can't afford to be without. According to the Royal Bank of Canada, "High morale generates thinking and planning, it stimulates initiative and enterprise; it is the most important ingredient of efficiency and only in its atmosphere are the people inspired to seek the best."

Definition of Work Simplification

We define work simplification as follows: "Work simplification is the organized use of common sense and a method of drawing on the know-how of *all* to find and apply easier and better ways of doing necessary work." In the hospital programs, we used the ending "to find and apply easier and better ways of providing better patient care."

Common sense is perhaps the most *un*common thing there is, as can be illustrated by a story about a dietitian traveling in India. The major problem she encountered was being able to get palatable meals. Finally she decided to give her favorite recipe to the head cook at the hotel, so that he would prepare it for her. After a couple of days of waiting, it was finally served with all the trimmings, but after one glance, along with a quick sniff of the dish, she could only say, "This isn't what I ordered." She then asked to talk with the cook. A Hindu with a French-type chef's cap soon appeared and tried to explain that he had tried to follow the instructions. Her reply was, "But why didn't you use your common sense?" At this, the cook pulled himself up to his full height and said, "But common sense, madam, is a gift of God; I have technical knowledge only."

Administering a Work Simplification Program

Our program is administered in three phases.

Phase I—Management Indoctrination and Orientation of the Total Organization. We conduct a series of nine 2-hr. conferences for the top management staff. The philosophy of work simplification must start at the top and filter down through the entire organization if you are to reap the full benefits from it. How well top management accepts it will determine how others accept it. If management shows an enthusiastic acceptance of the program, it is time to forge ahead; if not, there is little reason to go any further. This phase in my opinion, is *the* most important one.

Before starting the second phase, it is important to inform the entire work force what your objec-

tives are and what they will get out of the program.

Phase II—Educational. We start with one or more pilot groups from the middle management team, along with representatives of the hourly paid employees. They are exposed to a series of thirteen meetings, 2 hr. each. The objective of these pilot groups is to evaluate the material and the approach in order to modify it to fit their own group. The program now becomes *their* program, developed more or less by them, rather than one that was imposed on them. Other groups are then invited to participate with their own coordinator conducting the meetings.

Phase III—Follow-up or Application. No program of this nature is effective unless a mechanism is set up to harness the enthusiasm and newly acquired skills of the participants. In most cases, as a series of conferences unfold, the graduates become members of a problem-solving team. This is where work simplification begins in earnest. The team will meet once a week for 1 hr. to solve problems. At this point, work simplification becomes a part of their job. It is top management's responsibility, along with that of the coordinator, to maintain interest in the program. There are many ways of doing this, such as taking motion pictures, news items, contests between the teams, and proper recognition to those contributing. It must be kept alive to derive the full and lasting benefits from it.

Emphasize the Human Side

An effective program of work simplification must place major emphasis on the human side rather than the technical side. A friendly and open-minded atmosphere must first be created before going into the tools of the subject.

As far as work simplification and human relations are concerned, this is relatively simple. We must recognize two outstanding traits of human nature. First, it's natural for some people to resist change and to resent criticism. Since the dawn of history man has resisted changes. People become accustomed to a "habit pattern." Changes necessitate thinking and concentration on forming new habits. This upsets one's applecart on the road to complacency. Participation in work simplification, however, will help to create acceptance of change rather than attempting to overcome resistance to it.

Second, most people have a somewhat closed mind as far as accepting other people's ideas is concerned. To emphasize this trait of human nature, we hold buzz sessions with sub-groups of five or six people. Each is asked to list all of the "killer phrases" his boss uses when he goes to him with an idea. After about 5 or 6 min., each comes up with a long and amusing list. Each list is read to the whole group. As they are read, you hear many chuckles from the group. Then they are asked to list the killer phrases that *they* use when their people come to them with ideas. After a short discussion among themselves, they decide to use the same list.

We symbolize this closed-mind attitude with the red light, the stop sign on the road to progress. It stifles creativity and blocks ideas. It is the "no admission" sign to other people's ideas. It says: "My ideas are better"; "I am right, you are wrong"; "Don't burden me with the facts; my mind is already made up"; "It can't be done"; "We've tried it before"; "This is the one best way"; "I am perfectly satisfied"; "We have always done it this way"; "Leave well enough alone"; "I am too busy now"; "It won't work, I tell you"; "Why change now?" and so on.

The group agrees that we can't have this type of thinking and continue with work simplification. We must turn off the red light in our minds and turn on the green light, the *go* signal. We must change the no-admission sign to "Welcome—come in" and use such phrases as "I like your ideas"; "That is good thinking"; "Let's give it a fair try"; "There is always an easier way"; "We can never be satisfied"; "We must find an easier way"; "To progress, we must change"; "Why wait, let's go"; "Never too busy to be efficient"; "We will make it work"; and so on.

It's not easy to change people's attitudes. You can't expect it to happen overnight. It takes effort on their part to get and keep the mind open. Under normal conditions, the red stop sign is on; however, with effort applied in the right direction, the green light will appear. As long as the effort continues, it will remain on; but, if our effort ceases or our determination falters, the red light will come back on.

Conclusion

I have only scratched the surface of the program, of course. The only way for you to learn what it's really all about is to become involved in it. Work simplification is, of course, no "panacea" for solving all managerial problems, nor is it a "miracle drug" or a "gimmick" to cure all of our ills. However, in proper hands, it is a proven, valuable tool to help solve these problems and is within the reach of all within an entire organization. It is a method of developing the creative ability of all individuals. It may be compared with a bank account. "You must put some money in before you can draw on the account. The more you put in, the more you can draw out."

Since 1942, the United Nations Children's Fund (UNICEF) has been the channel for the distribution of some 750 million lb. nonfat dry milk from the U.S. —and now also from Canada—valued at approximately $90 million.

Making Your Reports More *Meaningful*[1]

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CHANGES IN thinking regarding management's role in an organization have forced a change in thinking regarding the type and nature of reports needed to fulfill this role.

Not many years ago, top management personally gathered the information it required by direct observation and contact with company operations. Executives and managers took great pride, and perhaps justifiably so, in being able to "operate by the seat of their pants." Today, this method of managing is viewed as an ineffective use of good talent. Instead of spending a great deal of time collecting information and "keeping in touch," management is now supposed to direct its attention to performance evaluation and decision-making and leave the reporting to others.

Poor reporting, under such circumstances, can really "foul up" company progress. The larger an organization, the further top management is from the day-to-day performance and the more important becomes middle management's role for the proper reporting of activities.

In any organization, reports, like other communication media, may be directed:

(a) Up (to top management, for example).

(b) Across (to others at the same executive level).

(c) Down (to individuals occupying positions of lesser importance).

I assume that your interest is mainly in the reports that flow "up" in terms of your organizational structure. Also, since dietitians are affiliated with different types of organizations and have different responsibilities with respect to report writing, it might be best to discuss the reporting function in general, rather than in specific terms, recognizing along the way some of the fundamentals and principles with which every writer of business reports should be familiar.

For the most part, our problem centers around the three R's. Not reading, 'riting, and 'rithmetic, but the reader, the reporter, and the report.

About the Reader

Let's begin with the reader. He may be the director of a hospital, the principal of a school, the manager of a restaurant chain, or the owner of a resort hotel. It makes no difference who he is as long as you, as writer of the report, keep in mind that you know a great deal more about the subject than he does and that your job, basically, is to transfer your knowledge to him in such a way that he may utilize the contents constructively.

It is hard to quarrel with the contention that business reports should be written for the reader, but this is not easily accomplished unless you know something about the reader, about his responsibilities, his desires, and even his limitations with respect to the subject you happen to be writing about. If we are talking about reports to be directed to top management, you can be reasonably sure that your reader will be concerned with responsibilities involving matters such as:

(a) Establishing company objectives.

(b) Planning and organizing for the purpose of achieving these objectives.

(c) Integrating departmental or divisional activities.

(d) Appraising performance and controlling activities.

The degree to which top management is concerned with the above responsibilities should influence the format and contents of departmental reports, since many decisions will be made on the basis of information contained in such reports, *including* decisions regarding the capabilities of the individual writing the report. With this subtle warning, let's move away from the "reader" and talk about the writer or reporter.

About the Reporter

Almost everyone holding an executive or semi-executive job today is required to transmit factual information to someone else. In this respect he is

[1]Presented at the 41st Annual Meeting of The American Dietetic Association in Philadelphia, on October 22, 1958.

reporting, even though he may not dignify his communications with that term.

An examination of some of the disorganized hodge podge that is contained in inter-company communications would lead one to believe that a good reporter is born and not made. This, of course, is not true. Anyone writing reports, can, with the exercise of some discipline and special effort, improve his product. Aside from reading about the subject and actually practicing the art, we can all profit by seeking the advice and counsel of specialists in this field. While it's true that anyone who cares to do so may improve his reporting technique, it is also true that many people possess skills and talents which make it possible for them to do a more effective job than others when it comes to preparing a written communication.

I do not presume to know the qualifications of a good dietitian, but I do know that if I were employing a person to write reports about activities of a nutrition department, I would want:

(a) A person of integrity (I want *all* the facts honestly stated).

(b) A person who is thorough and accurate (misstatement of facts can be costly).

(c) A person who could organize material and differentiate the important from the unimportant (I think my time is valuable, and whether it is or not, I don't want to waste it).

(d) A person who can write clearly and briefly and in terms of *my* interest and needs (I can't afford to have an interpreter).

(e) A person who has imagination as well as the ability to use good judgment (I hate sameness).

We all have integrity, and there is no reason why we all can't be accurate when presenting facts, but people do differ, and sometimes to a considerable extent, in their ability to organize material, in their talents for expressing something briefly and clearly, as well as in their ability to apply imagination in anticipating the needs of someone else.

The fact that reporting is now considered one of the most important factors in the management process, coupled with the fact that some executives have not been supplying management with the kind of data it requires, has led a number of organizations, in recent years, to consider reporting as a separate function. Instead of having reports come from executives in charge of departmental activities, these organizations now have all financial and statistical information flow into a special division staffed with people qualified to analyze, assemble, and interpret the material to be included in management reports. Centralizing the responsibility for the preparation of all reports has some advantages; it also has some disadvantages. All that one might say at this point is that the degree to which this trend will continue is bound to be influenced by the quality of reports top management receives from middle management in the future.

While it is important for us to have an appreciation of the purpose to be served by our reports today—particularly in light of management's new role in business—this understanding alone will not produce a meaningful report.

Before treating with the elements of a good report, I think it's only fair to state that while top management has been highly critical of the information it receives, it has not always faced up to its own responsibility for guiding others in how to prepare reports that would be most helpful. To some extent, this may be attributed to "busyness," but it is also true that in many instances, management, while sensing the need for more meaningful information, does not quite know what form this information should take.

Shortcomings of Reports

Since criticism that is frequently leveled against business reports can often be used as a basis for improving the reporting function, it may be worth our while to consider some of the more common complaints. High on the lists are:

(a) Reports contain too much information.

(b) Data are not presented in a clear and meaningful form.

(c) Reports are designed to serve many purposes rather than the particular needs of the reader.

(d) Many detailed tabulations could be better presented with charts.

(e) Relatively little is done to simplify the data presented.

(f) Information concerning "controllable" matters (from management's standpoint) is not segregated from uncontrollable matters.

(g) Reports are "old hat" by the time the reader receives them.

While the tendency to "criticize" but not "advise" places the "reporter" in a somewhat difficult position, nevertheless, if anyone responsible for preparing reports is willing to mold the contents to suit the interest and needs of the reader, then that person has a right to insist that the reader make his desires known.

About the Report

Report writing is an art, but it differs from the art of painting, for example, since an artist is usually concerned with his own personal reaction to the end result. In applying the art of reporting, the paints are mixed and applied—so to speak—for the primary purpose of satisfying the reader, not the reporter.

Although it is not always easy for the writer to determine just what *will* please the reader, there are certain generally accepted principles and

techniques that may be followed when preparing business reports that have substance and meaning. These principles should be the creed of all report writers. Let us cite them as the report writer's "Ten Commandments."

First (and the one that is frequently broken or ignored despite its importance): We should organize our record keeping so the reports can be *issued promptly* and at *regular intervals*, realizing that management decisions based on ancient history tend to lose a great deal of their effectiveness.

Second: We should practice the art of being *brief* and *to the point*, knowing that a detailed report is not necessarily a meaningful report.

Third: We should learn to distinguish between the *important* and the *unimportant*, so that we are able to segregate the "wheat from the chaff," the wheat being data applicable to matters that are "controllable" from a management standpoint and the chaff being anything that would tend to obscure essential information.

Fourth: We should be *accurate*, both with respect to statements made in the narrative form and in the presentation of financial and statistical data.

Fifth: We should state our case *clearly* and concisely and in language the reader can understand.

Sixth: We should, wherever possible, employ techniques which tend to *simplify the data* presented, keeping in mind that financial figures can be more readily interpreted when "rounded" to show amounts in even hundreds and thousands of dollars and that statistical techniques may be used to convert large numbers into smaller units which can be more readily digested by the reader.

Seventh: We should remember that reports prepared for top management will have limited meaning unless the data presented are related to a *standard* or *target* which would facilitate the evaluation of actual performance. The "target" may take the form of a budget, a forecast, pre-established standards, or anything else that affords some basis for comparison.

Eighth: We should, above all, have the courage to *report all facts honestly*, whether they reflect favorable or unfavorable circumstances, realizing that failure to do so is evidence that the reporter is not qualified to be a member of the management team.

Ninth: We should not be afraid to dramatize our presentations. Within reason, charts and graphs should be used to reflect trends, important words or phrases should be underscored, arrows or other symbols should be used to direct attention to important facts, and the judicious use of color can improve the appearance of our reports. In other words, we should do everything within reason to make our reports interesting and attractive to the reader.

Tenth: We should keep in mind that, sooner or later, the *cost* of preparing reports is bound to be *balanced against* the *value* of the information compiled and, therefore, it is important to prepare reports that will be read and not just filed away for possible future reference.

Conclusion

This brief treatment of the subject of business reports might be fittingly concluded by quoting a statement made by Lawrence G. Haggerty, President, Farnsworth Electronics Company, before a meeting of the American Management Association, in which he said (1).

"For executives to properly fulfill their responsibilities as members of the management team, they must see to it that all the necessary data are made available—clearly, concisely and in time to be of use. By so doing, they will achieve the basic management objective of motivating the *right people* to take the *right action* at the *right time*.

"This requires a system of reporting data which does not result in reports remaining unused on the president's or someone else's desk but which instead present all the necessary data in a simple, forceful, clearly understood form that takes only minutes per month for top management to grasp and understand."

Reference

(1) HAGGERTY, L. G.: Reporting Financial Data to Top Management. Am. Mgmt. Assn. Spec. Rept. No. 25, 1957.

Calorie Consumption Down Last Year

That Americans are diet-conscious, we all knew. Now USDA statistics confirm that they are doing something about it. Calorie consumption for 1958 was down 1 per cent under the 1947-49 average. In nutritive value, however, there was little change, with only iron, niacin, and ascorbic acid showing slight decreases in per capita consumption—primarily due to smaller use of potatoes and meat and the short supply of citrus fruit.

Compared with the 1947-49 average, the greatest difference showed up for vitamin A value and ascorbic acid, with consumption of both nutrients down about a tenth—partly due, of course, to somewhat reduced availability. Ascorbic acid consumption is expected to rise again in 1959, along with a more abundant citrus crop. Predictions are for about the same consumption of other nutrients this year.

Effect of Cooking Methods on Broccoli[1]

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A STUDY carried out on the quality of fresh broccoli as affected by thirteen different cooking procedures included investigation of flavor, texture, color, and nutrient content. This paper presents results of the nutritive study. The other quality factors will be reported in a subsequent publication.

Broccoli is rich in ascorbic acid and carotene (pro-vitamin A). The former is water soluble and unstable to heat, and the latter is easily oxidized. Consequently these nutrients were selected for study.

Experimental Procedure

ASCORBIC ACID

In the routine work, reduced ascorbic acid was determined by the indophenol procedure of Bessey and King (1). In the study of the various forms of ascorbic acid, the prccedure of Roe *et al.* (2) was used.

Broccoli samples were prepared for the indophenol procedure by cutting into thin slices and blending in a Waring Blendor for 2 min. at high speed. The cooked samples were extracted with 300 ml. of 1 per cent aqueous oxalic acid, diluted to 1000 ml. with 1 per cent oxalic acid, and a aliquot titrated. In the extraction of the raw broccoli, 1 per cent aqueous metaphosphoric acid was substituted for the oxalic acid. The raw broccoli was sliced under metaphosphoric acid to inactivate the ascorbic acid oxidase present.

The presence of reductones was investigated by titration in the presence of formaldehyde, as suggested by Robinson and Stotz (3). Results indicated no significant interference because of reductones.

CAROTENE

Preliminary carotene determinations were made, using the procedure of Wiseman, Irvin, and Moore (4). It is recognized that physical methods measure quantities of carotene with vitamin A activity without indicating the actual biologic potency in terms of vitamin A as utilized by the body. Graves (5), in a review article, has pointed out that the actual biologic efficiency in green vegetables is 70 to 100 per cent of that indicated by physical assay.

MATERIALS

All broccoli was of the green sprouting type, purchased at the same market the day before use, iced, and held overnight at 38°F. It varied somewhat in quality and maturity, but most was of good quality. In the fall, broccoli came from Florida and New Jersey, in the winter from Virginia, California, Arizona, and Texas.

PREPARATION AND COOKING PROCEDURE

Broccoli stalks were cut into pieces 6 in. long and large leaves were removed. It was washed, rinsed in distilled water, and dried with cheesecloth. Stems were pared to remove tough outer layers; those larger than 1 in. in diameter were slit lengthwise. Four 1-lb. samples were taken at random from the total prepared sample.

Four-qt. aluminum pans with glass covers were used for the boiling and steaming experiments, except for the study with 3800 gm. water which required 8-qt. kettles. Pressure cooking was done in 4-qt. pressure saucepans.

[1]Received for publication September 15, 1958.

[2]The authors express appreciation to Elsie H. Dawson for advice in planning this study, to Velma J. Chapman and Joanne O. Putz for valuable assistance in the laboratory, and to Elsie D. Foard and Jacob N. Eisen for the statistical designs and analyses.

Cooking was done on voltage-controlled electric units, set at "high" until the water returned to boiling after addition of the broccoli, then turned down to maintain boiling.

COOKING METHODS

The thirteen cooking methods selected for study involved boiling, steaming, pressure cooking, and cooking in water containing chemical additives. These additives included sodium hexametaphosphate and sodium bicarbonate which have been used for softening of tissues, thus shortening cooking time (6-10). Calcium and magnesium sulphates were studied because they occur in hard water and are known to harden the tissues of some vegetables.

The cooking methods and times used are given in Table 1. With one exception in the boiling and steaming experiments, the broccoli was placed in the pan as soon as the water boiled (as determined by thermocouples). One sample was started in cold water. Timing was begun in all cases when the cooking water returned to boiling. For pressure cooking, broccoli and cold water were placed in the cooker, the cover locked, the air exhausted, and the pressure brought to the level under study, before timing was begun. At the end of the cooking period, pressure saucepans were placed in ice water to bring the pressure to equilibrium; the broccoli was then weighed, drained, refrigerated to 75°F., and reweighed.

Results and Discussion

ASCORBIC ACID IN BROCCOLI

Several investigators have reported on the ascorbic acid in broccoli and the effect of cooking method on its retention. Values for uncooked broccoli have been reported ranging from 69 mg. per 100 gm. fresh broccoli (11) to 186 mg. (12).

Some of the factors influencing the ascorbic acid content of broccoli include seasonal variation (2, 12, 13) and variation in freshness, maturity, or size of plant. Variation is caused also by differences in ascorbic acid content of head and stem (14, 15) and differences in the percentage retention when cooked (16). Another possible source of variation was the paring of the outer portion of the stem before cooking.

Preliminary determinations showed, for the heads, an average ascorbic acid value of 158 mg. per 100 gm., and for the stems 115. After cooking for 10 min. in 300 gm. boiling water in a covered pan, the average retention for the heads was 60 per cent and for the stems 82 per cent. After 20-min. cooking, average retentions were 57 per cent for the heads and 71 per cent for the stems.

Trimming of the stem had little effect on its percentage of ascorbic acid since the vitamin appeared to be uniformly distributed throughout the stem.

Results of a limited study, Table 2, indicated that stems less than ½ in. in diameter contained a higher percentage of ascorbic acid than did those greater than 1 in. in diameter.

The ascorbic acid determinations were grouped according to the month in which the broccoli was received. The data indicated a low ascorbic acid content in May, a steady increase from October through December, with a peak in December. In general, this trend is similar to that reported by other laboratories (12, 13). This seasonal variation, however, would have no great effect on interpretation of the results of the cooking methods, since results were calculated on the basis of percentage retention.

EFFECT OF COOKING METHOD

Reduced Ascorbic Acid. In Table 1 are shown mean values obtained for the ascorbic acid in broccoli cooked by the various methods studied. Also given are the percentage retentions in the solids and the cooking liquids. In each method studied, there was a significant linear regression of percentage retention of ascorbic acid on length of cooking time.

In general, best retentions were obtained when the cooking water did not exceed 300 gm. With larger amounts, considerable leaching of ascorbic acid into the liquid occurred. With broccoli cooked in 1900 gm. or more of water, most of the leaching occurred within the first 5 min. of cooking. The total percentage of ascorbic acid retained in the solids plus cooking liquids did not decrease greatly with cooking time, indicating that the ascorbic acid was relatively heat stable. The amount of water rather than the cooking time appeared to be the principal factor governing the percentage retention in the solids. The chemical additives used appeared to have little effect on ascorbic acid retention.

If the cooking time required for production of optimum texture is considered to be the best cooking time for the sample, highest ascorbic acid retentions (70 to 80 per cent) were obtained in broccoli cooked to near optimum tenderness by the following methods: (a) 300 gm. (boiling) water in covered pan; (b) 300 gm. water (added cold) in covered pan; (c) steaming in covered pan over 600 gm. water; (d) 5 lb. pressure with 118 gm. water; and (e) 15 lb. pressure with 118 gm. water.

Reduced Ascorbic Acid, Dehydroascorbic Acid, and Diketogulonic Acid. The procedure of Roe *et al.* (2) was used for the quantitative differentiation of reduced ascorbic acid, dehydroascorbic acid, and diketogulonic acid in broccoli cooked by some of the methods studied. Results are shown in Table 3.

The amounts of the three substances in the fresh, raw broccoli varied within wide limits. The dehydroascorbic acid ranged from 14.8 to 52.2 mg. per

TABLE 1 Reduced ascorbic acid in broccoli cooked by different methods

COOKING METHODS AND TIME	REDUCED ASCORBIC ACID*			
	In solids	Retention		
		In solids	In liquid	Total
Cooked without Chemical Additives				
	mg./100 gm.	%	%	%
Boiled in 300 gm. water in covered saucepan				
Raw	95.2	—	—	—
5 min.	95.5	90.6	7.8	98.4
10 min.	74.8	71.8	10.5	82.3
15 min.	65.1	62.4	10.4	72.8
25 min.	58.8	56.2	9.4	65.6
Test difference†		(29.2)		
Regression coefficient‡		−8.0		
Boiled in 300 gm. water, started cold, in covered saucepan				
Raw	103.0	—	—	—
5 min.	81.8	79.9	11.1	91.0
10 min.	79.7	77.8	12.3	90.1
15 min.	71.9	70.6	14.1	84.7
25 min.	64.4	63.5	12.4	75.9
Test difference†		(7.9)		
Regression coefficient‡		−4.3		
Boiled in 1900 gm. water in uncovered saucepan				
Raw	95.9	—	—	—
5 min	54.7	57.1	37.6	94.7
10 min.	48.4	50.5	42.9	93.4
15 min.	45.4	47.7	46.8	94.5
25 min.	44.0	45.7	45.2	90.9
Test difference†		(7.0)		
Regression coefficient‡		−2.6		
Boiled in 3800 gm. water in uncovered saucepan				
Raw	84.5	—	—	—
5 min.	42.5	50.9	36.2	87.1
10 min.	36.3	43.2	46.4	89.6
15 min.	30.2	36.6	49.8	86.4
25 min.	26.6	32.2	52.2	84.4
Test difference†		(5.7)		
Regression coefficient‡		−4.6		
Steamed over 600 gm. water in covered saucepan				
Raw	117.1	—	—	—
5 min.	97.4	84.2	12.1	96.3
10 min.	92.5	78.7	13.9	92.6
15 min.	79.0	68.3	18.4	86.7
25 min.	75.1	63.8	13.2	77.0
Test difference†		(14.1)		
Regression coefficient‡		−5.2		
Cooked at 5 lb. steam pressure in 118 gm. water				
Raw	90.4	—	—	—
3 min.	70.5	78.4	5.3	83.7
6 min.	64.4	71.7	6.3	78.0
9 min.	55.3	61.5	6.0	67.5
12 min.	54.6	60.7	7.9	68.6
Test difference†		(6.8)		
Regression coefficient#		−10.6		
Cooked at 15 lb. steam pressure in 118 gm. water				
Raw	113.2	—	—	—
½ min.	79.4	72.3	5.1	77.4
1 min.	76.7	69.3	5.1	74.4
3 min.	62.7	57.1	6.6	63.7
5 min.	69.6	63.0	8.7	71.7
Test difference†		(11.0)		
Regression coefficient‖		−11.7		

*Mean of 3 values, heads and stems combined.

†Any difference between two means which equals or exceeds the indicated test differences is significant at the 5% level of the Duncan and Bonner test (raw broccoli excluded).

‡Decrease for 5 min. cooking time.

#Decrease for 3 min. cooking time.

‖Decrease for 2 min. cooking time.

TABLE 1—Concluded

COOKING METHODS AND TIME	REDUCED ASCORBIC ACID*			
	In solids	Retention		
		In solids	In liquid	Total
Cooked with Chemical Additives				
	mg./100 gm.	%	%	%
Boiled in 1900 gm. water in saucepan with vented cover (controls—no additives)				
Raw	113.0	—	—	—
5 min.	59.6	54.0	43.8	97.8
10 min.	55.2	51.9	47.1	99.0
15 min.	41.1	37.4	50.9	88.3
25 min.	35.3	32.2	45.3	77.5
Test difference†		(17.5)		
Regression coefficient‡		−5.9		
Calcium sulphate (0.5 gm.) added				
Raw	97.8	—	—	—
5 min.	41.1	43.6	34.0	77.6
10 min.	42.7	44.5	49.1	93.6
15 min.	35.6	36.3	51.8	88.1
25 min.	32.6	33.6	50.9	84.5
Test difference†		(9.6)		
Regression coefficient‡		−2.8		
Sodium chloride (12 gm.) added				
Raw	111.0	—	—	—
5 min.	60.3	54.2	32.2	86.4
10 min.	55.0	49.4	33.7	83.1
15 min.	51.9	46.6	41.1	87.7
25 min.	43.0	38.4	47.9	86.3
Test difference†		(6.8)		
Regression coefficient‡		−3.9		
Sodium bicarbonate (1 gm.) added				
Raw	123.0	—	—	—
5 min.	55.1	44.7	33.7	78.4
10 min.	49.5	40.2	37.7	77.9
15 min.	45.1	36.6	47.6	84.2
25 min.	41.2	33.4	53.3	86.7
Test difference†		(3.0)		
Regression coefficient‡		−2.8		
Magnesium sulphate (1 gm.) added				
Raw	100.3	—	—	—
5 min.	52.0	52.1	45.8	97.9
10 min.	47.5	47.7	47.8	95.5
15 min.	43.8	43.6	51.7	95.3
25 min.	36.0	36.2	54.6	90.8
Test difference†		(7.9)		
Regression coefficient‡		−4.0		
Sodium hexametaphosphate (0.75 gm.) added				
Raw	129.0	—	—	—
5 min.	59.7	46.3	35.3	81.6
10 min.	53.1	41.2	43.2	84.4
15 min.	57.9	44.7	47.7	92.4
25 min.	44.3	34.2	54.0	88.2
Test difference†		(8.7)		
Regression coefficient‡		−2.7		

100 gm., the diketogulonic acid from 3.5 to 16, and the reduced ascorbic acid from 47.3 to 162.5. The effect of cooking on these compounds is undoubtedly very complex.

In most cases losses occurred with longer cooking time. Cooking with 1900 gm. water caused substantial losses of all three compounds. There appears also to have been a positive correlation between loss of both dehydroascorbic acid and diketogulonic acid and the amounts of the substances originally present.

If large amounts of dehydroascorbic acid and

TABLE 2 Relation between diameter of broccoli stem and ascorbic acid content

DATE OF TEST	ASCORBIC ACID	
	Diameter more than 1 in.	Diameter less than ½ in.
	mg./100 gm.	*mg./100 gm.*
July 19, 1956	100.4	104.7
August 28, 1956	99.4	122.0
August 28, 1956	109.6	118.8
August 28, 1956	89.8	102.4
August 31, 1956	102.2	120.0
August 31, 1956	82.2	104.3
August 31, 1956	82.2	93.2
Mean	95.1	109.3
Coefficient of variation	12.29	10.01

diketogulonic acid were present, there appeared to be some conversion of these substances to reduced ascorbic acid during cooking. This is illustrated by the sample containing 52.2 and 16.0 mg., respectively, of dehydroascorbic acid and diketogulonic acid. For this sample, there was a significant increase in reduced ascorbic acid when cooked. This was indicated by both the Roe and the indophenol titration methods. At the same time, there occurred a large reduction in the amount of both dehydroascorbic acid and diketogulonic acid. In the sample containing 32.5 mg. per 100 gm. dehydroascorbic acid, there was also a significant loss with cooking time. The reduced ascorbic acid, on the other hand, had increased slightly after 25 min. cooking time.

CAROTENE IN BROCCOLI

The distribution of carotene in the broccoli was quite uneven. The content of the heads ranged from 693 to 2483 mcg. per 100 gm. and that of the stems from 115 to 400 mcg.

Stems which had been pared contained 58 to 173 mcg. carotene per 100 gm. Two analyses made on material pared from the stem showed values of 230 and 460 mcg. per 100 gm. Paring, therefore, removed the portion richest in carotene. However, since the broccoli head contains a much higher proportion of carotene than does the stem, any loss caused by paring the stem is relatively unimportant.

Carotene determinations made on the same lot of broccoli showed values of 1271 mcg. per 100 gm. for heads which were fully developed and 693 for those which were dark green and compact. Determinations on another lot of broccoli showed values of 2483 and 1733 mcg., respectively, for fully developed and partially developed heads.

The preliminary work indicated that broccoli lost little carotene when cooked by the methods studied. Consequently, routine determinations of carotene were not made on the broccoli cooked by the thirteen methods. Carotene determinations were made on a follow-up study involving the direct comparison of four cooking methods. Results of this study will be reported later.

TABLE 3 Effect of cooking method on retention of reduced ascorbic acid, dehydroascorbic acid, and diketogulonic acid in broccoli

COOKING TIME AND METHOD	DEHYDRO-ASCOR-BIC ACID	DIKETO-GULONIC ACID	REDUCED ASCOR-BIC ACID	TOTAL ASCOR-BIC ACID (2)	REDUCED ASCOR-BIC ACID (1)
	mg./100 gm.	*mg./100 gm.*	*mg./100 gm.*	*mg./100 gm.*	*mg./100 gm.*
Boiled in 300 gm. water					
Raw	32.5	3.5	107.8	143.8	—
25 min.	11.7	4.5	109.7	125.9	—
Boiled in 1900 gm. water					
Raw	30.0	9.0	67.5	106.5	61.2
5 min.	6.0	5.0	58.0	69.0	57.6
25 min.	4.4	1.5	27.6	33.5	34.4
Steamed in 600 gm. water					
Raw	17.5	7.0	95.5	120.0	89.2
5 min.	8.8	5.8	81.4	96.0	81.1
10 min.	7.6	5.7	77.9	91.2	76.2
Cooked at 15 lb. pressure in 118 gm. water					
Replicate 1					
Raw	52.2	16.0	47.3	115.5	53.3
½ min.	10.9	3.9	91.9	106.7	89.9
5 min.	11.5	4.6	81.8	97.9	76.9
Replicate 2					
Raw	14.8	9.5	162.5	186.8	—
½ min.	13.2	5.0	137.0	155.2	—
5 min.	13.0	3.5	136.6	153.1	—

Summary

A study was made of factors affecting the ascorbic acid and carotene content of fresh broccoli, including method and time of cooking, seasonal variation, and variation in freshness, maturity, and size of plant. A study was also made of the effect of cooking method on diketogulonic acid and on reduced and dehydroascorbic acid content of broccoli.

There were significant losses of ascorbic acid during cooking, regardless of the method employed. Leaching of ascorbic acid into the cooking liquid rather than destruction by heat was the chief factor responsible for these losses. Broccoli cooked to a satisfactory state of doneness, as judged by panel texture evaluation, retained from 60 to 85 per cent of its original ascorbic acid in all cases except when an excessive amount of cooking liquid was used.

Broccoli stems less than ½ in. in diameter contained a higher percentage of ascorbic acid than did stems greater than 1 in. in diameter. Ascorbic acid was uniformly distributed throughout the stem. No relationship was found between size of head and ascorbic acid content.

Some of the fresh broccoli tested contained considerable dehydroascorbic acid and diketogulonic acid. Loss of these compounds during cooking was related to the amount present before cooking.

Carotene was concentrated chiefly in the green outer portion of the stems. Smaller, less mature heads contained a lower percentage of carotene than larger ones. Preliminary studies indicated no significant losses in carotene in the broccoli when cooked.

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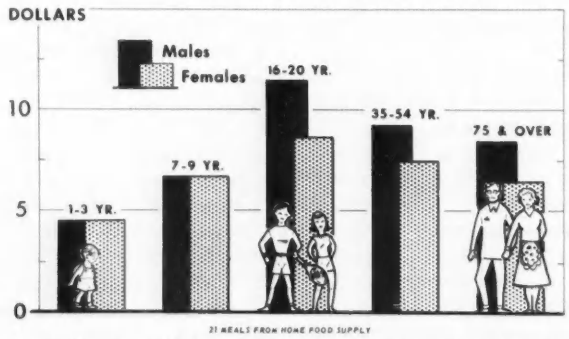
What It Costs to Feed a Family

COST OF A WEEK'S FOOD

Moderate-cost Food Plan, Aug. 1958



Because food needs vary widely at different ages, age is an important consideration in estimating food budgets. The USDA has, therefore, prepared this chart, based on its moderate-cost food plan and August 1958 food prices, as an aid in making family food budgets. In general, food costs increase with age up to twenty years, then decrease. Feeding a three-year-old boy would cost $4.50 a week compared with $11.50 for a sixteen-year-old boy and $8.50 for a man seventy-five years old. The cost of feeding children at any age under twelve years is the same for boys and girls, but over twelve, boys and men need more food. It costs about a third more to feed a sixteen-year-old boy, on the average, than a girl of the same age. Next to the teen-age boy, a man of thirty-five to fifty-four years averages highest in the cost of his food.

II. Palatability

Effect of Cooking Methods on Broccoli[1]

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THE GREAT difference in the structure and composition of the stems and heads of broccoli, and the presence of unstable chlorophyll and of sulphur compounds make proper cooking of this vegetable difficult. Original quality of the vegetable and the cooking techniques employed have been mentioned as factors affecting palatability (1, 2). However, findings in regard to various cooking methods have differed in different laboratories (2-4).

This study was undertaken to evaluate commonly used methods and to develop improved methods of cooking broccoli which will maintain or enhance palatability. A parallel study on the nutritive value of broccoli has been reported (5).

Thirteen cooking procedures were studied one at a time. Cooking times were varied to yield products ranging from under-cooked to over-cooked in order to determine the color, texture, and flavor changes and to gain a better understanding of the interrelationships between the physical and chemical changes involved. The cooking methods and times are given in Table 1.

Experimental Methods

Design and Analysis. A randomized block design [Cochran and Cox (6)] was followed for each cooking method to specify order of cooking and serving samples. One replication of the four cooking times for any one method was studied the same day; three replications were carried out for each cooking method on consecutive days.

Data from each experiment were evaluated by analysis of variance. Differences between single means were examined for significance applying the Duncan and Bonner test (7). Correlations were made between the data obtained from the different tests to study color and texture.

Materials. Green, sprouting-type broccoli was purchased at the same market daily. It was held overnight at 38°F.

Preparation and Cooking Procedures. Details on preparation and cooking procedures were given in the report on nutrient content (5). Broccoli from the same market lot was used for palatability evaluation as for nutrient studies each day. Duplicate lots were cooked so that the palatability tests paralleled nutrient studies.

Procedures for Palatability Studies. Color, flavor, and texture of cooked broccoli were rated by a trained panel of five members. Warm, coded samples of broccoli heads and stems were rated separately. The rating scales for each factor are given in the footnotes of Table 1. Panel members were asked to name any off-flavors they detected.

Chlorophyll. Chlorophyll was determined by a modification of the procedure of Petering, Wolman, and Hibbard (8). Samples were extracted with acetone in a Waring Blendor and the absorbence of the acetone extracts determined at 642.5, 660, and 665 millimicrons. The chlorophyll content of extracts of raw broccoli was calculated, using the absorbence values determined at 642 and 660 millimicrons. Chlorophyll in the extracts of cooked broccoli was determined by comparing the absorbence at 665 millimicrons with that of an extract of uncooked broccoli at the same wave length.

Consistency. Consistency measurements were made with a Brookfield Viscometer (9) on slurries made by blending 100 gm. broccoli in a Waring Blendor with 200 ml. water.

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[2]The authors express appreciation to Elsie H. Dawson for advice in planning these studies and to Mildred G. Staley and Joanne O. Putz for valuable assistance in the laboratory.

TABLE 1 Color, texture, and flavor of broccoli cooked for different lengths of time by different methods

COOKING TIME AND METHOD	MEAN PANEL SCORES FOR COLOR*		CHLOROPHYLL (HEADS AND STEMS)†	COLOR DIFFERENCE METER‡		MEAN PANEL SCORES FOR TEXTURE#		MEAN SHEAR VALUES FOR STEMS†	MEAN PANEL SCORES FOR FLAVOR‖	
	Heads	Stems		Heads	Stems	Heads	Stems		Heads	Stems
Cooked without Chemical Additives										
			mg./100 gm.	a_L/b_L *values*	a_L/b_L *values*			*lb. force*		
Boiled in 300 gm. water in covered saucepan										
Raw	—	—	12.8	0.63	0.63	—	—	—	—	—
5 min.	4.7	5.0	12.8	0.74	0.72	7.9	7.8	—	2.4	2.8
10 min.	3.8	4.0	8.7	0.61	0.62	5.3	5.7	—	3.6	4.1
15 min.	2.6	3.3	9.3	0.48	0.52	4.3	4.6	—	3.3	3.9
25 min.	1.6	2.1	6.9	0.31	0.38	2.2	2.4	—	2.1	2.5
Test difference¶	0.5	0.3	2.6	0.16	0.12	0.6	0.6		0.8	0.4
Regression coefficient**	−0.8	−0.7	−1.3	−0.10	−0.08	††	††		††	††
Boiled in 300 gm. water, started cold, in covered saucepan										
Raw	—	—	10.9	0.60	0.59	—	—	—	—	—
5 min.	4.6	4.9	12.8	0.65	0.74	6.3	6.4	—	3.1	3.7
10 min.	3.5	3.7	10.8	0.58	0.61	5.1	4.8	—	3.2	4.3
15 min.	2.6	2.9	7.4	0.44	0.55	3.9	3.3	—	3.3	3.2
25 min.	1.5	1.9	7.2	0.30	0.40	2.3	1.5	—	2.0	2.3
Test difference¶	0.6	0.4	2.9	0.09	0.04	0.6	0.5		0.9	0.9
Regression coefficient**	−0.8	−0.7	−1.4	−0.09	−0.08	−1.0	−1.2		††	††
Boiled in 1900 gm. water in uncovered saucepan										
Raw	—	—	14.1	0.69	0.66	—	—	—	—	—
5 min.	4.5	4.6	14.2	0.65	0.67	5.4	6.1	—	3.2	3.7
10 min.	3.9	3.6	11.5	0.54	0.53	4.4	5.0	—	3.5	4.1
15 min.	2.3	2.5	12.2	0.44	0.47	3.4	4.1	—	2.7	3.4
25 min.	2.3	2.4	8.8	0.34	0.36	2.3	2.7	—	2.1	2.8
Test difference¶	0.6	0.6	2.2	0.03	0.06	0.7	0.8		0.7	0.5
Regression coefficient**	††	††	−1.2	−0.07	−0.07	−0.8	−0.8		††	††
Boiled in 3800 gm. water in uncovered saucepan										
Raw	—	—	12.4	0.68	0.60	—	—	—	—	—
5 min.	4.3	4.2	13.1	0.59	0.60	5.8	6.1	—	2.9	3.7
10 min.	3.4	3.2	11.0	0.50	0.49	4.8	4.9	—	2.2	3.5
15 min.	2.3	2.2	8.6	0.43	0.44	3.8	3.9	—	2.5	3.1
25 min.	1.6	1.8	5.7	0.31	0.34	2.1	2.3	—	1.8	2.3
Test difference¶	0.4	0.4	3.2	0.06	0.03	0.8	0.5		0.5	0.8
Regression coefficient**	††	††	−1.9	−0.07	−0.06	−0.9	−0.9		−0.2	−0.3
Steamed over 600 gm. water in covered saucepan										
Raw	—	—	14.3	0.73	0.64	—	—	805	—	—
5 min.	5.0	4.9	16.6	0.78	0.71	5.7	6.4	440	2.9	2.9
10 min.	3.9	3.9	10.9	0.65	0.59	4.3	4.9	152	3.3	3.6
15 min.	3.0	2.7	9.7	0.54	0.52	2.9	3.4	91	2.4	2.6
25 min.	1.5	1.6	10.5	0.42	0.38	1.5	1.4	50	1.4	1.5
Test difference¶	0.5	0.5	2.7	0.08	0.08	1.0	1.5	100	0.4	0.3
Regression coefficient**	−0.9	−0.8	−1.3	−0.09	−0.08	−1.0	−1.3	††	††	††
Cooked at 5 lb. steam pressure in 118 gm. water										
Raw	—	—	10.0	0.67	0.56	—	—	775	—	—
3 min.	4.8	4.9	10.1	0.64	0.54	6.3	7.1	503	2.4	2.6
6 min.	3.4	3.5	7.2	0.52	0.45	4.0	4.9	227	3.1	3.4
9 min.	2.8	3.0	7.0	0.45	0.42	3.4	4.1	93	2.5	3.2
12 min.	2.1	2.3	6.8	0.35	0.37	2.3	3.0	25	1.9	2.3
Test difference¶	1.3	1.3	4.7	0.12	0.09	0.7	0.7	267	1.0	1.0
Regression coefficient‡‡	−0.9	−0.9	−0.7	−0.04	−0.05	††	††	−157	††	††
Cooked at 15 lb. steam pressure in 118 gm. water										
Raw	—	—	14.6	0.69	0.65	—	—	760	—	—
½ min.	5.0	4.9	11.0	0.75	0.64	5.8	7.3	480	2.8	2.5
1 min.	4.6	4.8	11.8	0.71	0.61	5.3	6.3	373	3.4	3.4
3 min.	3.0	3.0	8.8	0.52	0.49	2.5	3.4	47	2.1	2.7
5 min.	1.8	2.1	8.0	0.36	0.38	1.1	1.3	0	1.3	1.8
Test difference¶	0.5	0.5	3.9	0.07	0.06	0.8	0.8	137	0.8	0.8
Regression coefficient##	−1.4	−1.4	−0.9	−0.17	−0.12	††	−2.6	††	††	††

*Mean of 15 values. Score of 5 denotes bright green; 4, moderately bright green; 3, slightly dull green; 2, dull yellow green; 1, dark brownish green.

†Mean of 3 values

‡Mean of 15 values.

#Mean of 15 values. Score of 9 denotes very tough; 8, tough; 7, moderately tough; 6, slightly too firm; 5, tender, yet firm; 4, slightly too tender; 3, moderately soft; 2, soft; 1, mushy.

‖Mean of 15 values. A score of 5 denotes characteristic natural, full flavor; 4, slightly lacking in natural, full; 3, moderately full; 2, moderately weak; 1, weak or lacking.

¶Any difference between two means which equals or exceeds the indicated test difference is significant at the 5% level of the Duncan and Bonner test (raw broccoli excluded).

**Decrease or increase for 5 min. cooking time.

††Regression of mean values on cooking time was curvilinear.

‡‡Decrease or increase for 3 min. cooking time.

##Decrease or increase for 2 min. cooking time.

TABLE 1—Concluded

COOKING TIME AND METHOD	MEAN PANEL SCORES FOR COLOR*		CHLOROPHYLL (HEADS AND STEMS)†	COLOR DIFFERENCE METER‡		MEAN PANEL SCORES FOR TEXTURE#		MEAN SHEAR VALUES FOR STEMS†	MEAN PANEL SCORES FOR FLAVOR‖	
	Heads	Stems		Heads	Stems	Heads	Stems		Heads	Stems
Cooked with Chemical Additives										
			mg./100 gm.	a_L/b_L *values*	a_L/b_L *values*			*lb. force*		
Boiled in 1900 gm. water in saucepan with vented cover (controls—no additives)										
Raw	—	—	13.9	0.76	0.69	—	—	808	—	—
5 min.	4.4	4.3	11.6	0.69	0.63	5.1	6.2	207	3.2	3.1
10 min.	3.2	2.9	9.5	0.57	0.51	4.2	4.8	143	2.6	2.9
15 min.	2.4	2.3	9.2	0.45	0.44	2.8	3.3	102	2.1	2.3
25 min.	2.0	1.8	8.1	0.37	0.36	1.4	1.9	30	1.5	1.6
Test difference¶	0.4	0.3	2.5	0.04	0.04	0.5	0.9	74	0.7	0.7
Regression coefficient**	††	††	−0.8	−0.08	−0.06	−0.9	−1.1	−43	−0.4	−0.4
Calcium sulphate (0.5 gm.) added										
Raw	—	—	10.6	0.70	0.63	—	—	—	—	—
5 min.	4.9	4.8	10.8	0.72	0.67	5.5	6.2	—	3.4	3.3
10 min.	4.2	4.1	9.0	0.61	0.60	4.3	5.3	—	2.9	3.0
15 min.	2.9	2.8	8.4	0.51	0.49	3.3	3.5	—	2.3	2.8
25 min.	2.0	2.1	8.1	0.38	0.39	1.7	1.7	—	1.8	2.4
Test difference¶	0.4	0.4	1.1	0.04	0.07	0.6	0.9		0.7	0.8
Regression coefficient**	††	††	−0.6	−0.08	−0.07	−0.9	−1.0		−0.4	−0.2
Sodium chloride (12 gm.) added										
Raw	—	—	15.0	0.74	0.63	—	—	982	—	—
5 min.	4.6	4.6	11.6	0.84	0.70	4.4	5.7	77	2.6	3.2
10 min.	3.9	3.6	11.0	0.72	0.60	2.7	4.1	25	2.3	2.9
15 min.	3.1	2.9	10.9	0.67	0.55	2.0	3.6	0	1.7	2.2
25 min.	2.5	1.9	10.2	0.50	0.42	1.1	1.7	10	1.3	1.7
Test difference¶	0.5	0.4	2.5	0.07	0.05	0.5	0.7	61	0.3	0.7
Regression coefficient**	−0.5	−0.6	−0.3	−0.08	−0.07	††	−1.0	††	−0.3	−0.4
Sodium bicarbonate (1 gm.) added										
Raw	—	—	14.6	0.60	0.54	—	—	—	—	—
5 min.	4.8	4.6	14.3	0.97	0.75	2.8	5.3	—	2.5	3.2
10 min.	4.5	4.1	10.6	0.92	0.73	1.3	2.9	—	1.5	2.5
15 min.	3.9	3.5	10.9	0.84	0.69	1.2	2.3	—	1.2	2.1
25 min.	3.7	3.1	10.9	0.75	0.61	1.0	1.7	—	1.0	1.8
Test difference¶	1.0	0.4	5.0	0.08	0.04	0.6	0.7		0.6	0.8
Regression coefficient**	††	††	−0.6	−0.06	−0.04	††	††		††	−0.3
Magnesium sulphate (1 gm.) added										
Raw	—	—	9.1	0.74	0.65	—	—	747	—	—
5 min.	4.8	4.6	9.8	0.78	0.68	5.8	6.5	195	3.3	3.2
10 min.	3.9	3.7	7.5	0.66	0.58	4.5	4.9	112	2.7	2.9
15 min.	3.4	2.9	7.0	0.56	0.49	3.6	4.1	45	2.5	3.0
25 min.	2.6	2.1	6.3	0.44	0.39	1.5	2.3	27	1.5	1.9
Test difference¶	0.3	0.5	1.7	0.05	0.06	0.5	0.6	151	0.6	0.6
Regression coefficient**	−0.5	−0.6	−0.8	−0.08	−0.06	−1.1	−1.0	††	−0.4	−0.3
Sodium hexametaphosphate (0.75 gm.) added										
Raw	—	—	12.9	0.72	0.63	—	—	780	—	—
5 min.	4.6	4.4	12.2	0.77	0.70	5.1	6.2	153	3.3	3.2
10 min.	3.8	3.4	10.4	0.64	0.58	4.0	4.3	48	2.7	2.9
15 min.	3.5	3.1	9.6	0.59	0.54	2.3	2.9	18	2.1	2.7
25 min.	1.9	1.8	8.1	0.45	0.41	1.1	1.5	8	1.2	1.8
Test difference¶	0.7	0.7	1.7	0.08	0.11	0.3	0.6	21	0.5	0.6
Regression coefficient**	−0.7	−0.6	−1.0	−0.08	−0.07	††	††	††	−0.5	−0.3

Measurement of Shear Force. A Lee-Kramer Shear Press (10) with a standard cell and a 3000-lb. proving ring was used. Broccoli stems were placed in layers at right angles to the blades.

Color Analysis by Instrument. Separate determinations were made with a Gardner Automatic Color Difference Meter (11) on finely chopped heads and stems of broccoli. A Gardner medium green color standard, L 50.7, a_L—25.5, b_L + 6.2 was used. The average of five readings was taken as the color value of the sample. The color of the broccoli was evaluated by using the ratio a_L/b_L where a_L is a measure of the green color and b_L of the yellow.

Results and Discussion

Both panel scores and objective measurements were taken into account in determining the effects of the various cooking times and methods on the eating quality of the product. Texture is of major importance since broccoli will not be eaten if it is grossly under- or over-done. Optimum cooking times should yield products considered tender yet retaining their form and as much as possible of the original color and having a palatable, well developed flavor.

COLOR

With six of the eleven methods involving cooking at atmospheric pressure and also with both pressure cooking methods, there were significant linear regressions of mean color score on length of cooking time (Table 1). In the other five methods, the regression of mean color values on cooking time was curvilinear. Most of the differences between color scores for broccoli cooked for the different periods

by any of the methods studied were statistically significant. The scores for color indicated change of color from the bright green color of under-cooked broccoli to the dull green with yellow or brown cast of over-cooked broccoli.

Broccoli cooked for 5 min. by any method (except under pressure) was rated above 4 in color of both heads and stems, indicating they were moderately bright to bright green. Most of the samples still had fairly satisfactory color after cooking for 10 min. but were rated down considerably when cooked for 15 min. The broccoli cooked in water with sodium bicarbonate was scored higher on color than the control. The effect of sodium bicarbonate in increasing the green color in vegetables is well known, and that effect must be considered against effects on other quality characteristics. The samples cooked in the two largest amounts of water in uncovered saucepans scored low. Color of all samples cooked for 25 min. except the one sample to which sodium bicarbonate was added, was seriously impaired.

Broccoli cooked at 15 lb. steam pressure retained nearly all of its original color after a ½- or 1-min. cooking period. Color of broccoli cooked at 5 lb. pressure for 3 min. was characterized as bright green and was comparable to broccoli cooked at 15 lb. pressure for ½ min. or to samples cooked by the other methods for 5 min.

Significant losses in chlorophyll occurred in all but four of the cooking methods; further work would undoubtedly show significant losses with these, also. The estimated linear regression coefficient of chlorophyll for the experiments carried out at atmospheric pressure and not involving additives showed greater change per 5-min. cooking time than for those using additives. The chlorophyll loss per 3 min. in broccoli cooked at 5 lb. pressure was approximately the same as that per 2-min. cooking time at 15 lb.

Color readings obtained with the Gardner Color Difference Meter showed in each experiment significant decreases in green color with increased cooking time. For each experiment, the linear regression coefficient of mean a_L/b_L values on cooking time was significantly different from zero at the 5 per cent level. Estimated decreases in color values for different cooking methods were in the same range except for larger values for the sample cooked at 15 lb. pressure.

Correlations between the different methods of evaluating color (Table 2) were significantly different from zero at the 1 per cent level. The correlations were based on the data obtained from all thirteen experiments.

TABLE 2 Relationship between different methods of evaluating color and texture of broccoli

EVALUATION METHODS COMPARED	NUMBER OF OBSERVATIONS	CORRELATION COEFFICIENT
Color		
Palatability panel and color difference meter†		
Heads	156	0.84**
Stems	156	0.87**
Palatability panel and chlorophyll‡	156	0.52**
Chlorophyll and color difference meter‡#	156	0.57**
Texture		
Palatability panel and shear press‖	84	0.72**
Palatability panel and consistency‡	40	−0.87**
Shear press‖and consistency‡	36	−0.75**

**Significantly different from zero at the 1% level of significance.
†a_L/b_L values.
‡Heads and stems combined.
#a_L values.
‖Stems only.

TEXTURE

As with color, the differences between mean texture scores for broccoli cooked for the different periods by any of the methods tested generally were statistically significant (Table 1).

A 5-min. cooking period was insufficient to make broccoli tender unless sodium bicarbonate was added or steam pressure was used. Sodium bicarbonate gave broccoli an undesirable slippery quality, however. The 10-min. cooking period yielded broccoli nearest optimum doneness with steaming and with most of the boiling methods tested. Broccoli cooked for 15 min. by any method was over-cooked. After 25 min. cooking, all samples had very poor texture; both stems and heads were extremely over-cooked.

Using 15 lb. pressure, a 1-min. cooking period was not quite sufficient for tender broccoli stems, whereas 3 min. over-cooked both heads and stems. A 2-min. period would probably have been better. A 6-min. period at 5 lb. pressure yielded broccoli nearer optimum tenderness than did the other times studied.

For most methods carried out at atmospheric pressure, there was a significant linear regression of mean texture scores on cooking time.

The Lee-Kramer Shear Press was available for only seven of the experiments. Shear force values decreased as the cooking time increased.

Consistency measurements were taken only in experiments on steaming and pressure cooking, and data are not included in the table. The consistency of slurries increased as the length of cooking time increased, from an average of 82 centipoises for raw broccoli to over 1000 for steamed and pressure-cooked broccoli.

There was a positive relationship between panel scores for texture of stems and shear press values

(Table 2). Other correlations were negative, indicating that as broccoli became more tender its consistency thickened. Each correlation coefficient was based on the combined data of the several experiments.

FLAVOR

Differences between mean flavor scores for broccoli cooked for the various times were significant in some instances for some of the methods (Table 1), but in general, differences in flavor were less pronounced than those in color and texture.

Panel comments indicated that cooking for 5 min. was not sufficient to eliminate raw flavor and develop the normal cooked flavor of broccoli when the following methods were used: boiling in a covered pan started in a small amount of either cold or boiling water, in an open pan in boiling water to cover the vegetable, or in steam.

Panel scores indicated that 10-min. cooking time was best for developing the flavor of broccoli prepared by these methods. Flavor constituents of broccoli cooked in a large amount of water appeared to leach out into the water with long cooking. With the pressure method, the best flavor resulted from cooking broccoli for 6 min. at 5 lb. pressure and for 1 min. at 15 lb.

Flavor scores for the heads tended to be lower than those for the stems.

Summary

Fresh broccoli was cooked by thirteen different procedures, including several boiling techniques, steaming, and pressure cooking. Cooking times were varied to yield products ranging from under-cooked to over-cooked in order to determine the extent of change in color, texture, and flavor.

Palatability evaluations on color, texture, and flavor were made by a trained panel. Objective tests included determination of chlorophyll, consistency, Gardner color difference meter readings, and Lee-Kramer shear press readings.

When broccoli was cooked for increasing lengths of time by any of the procedures, color deteriorated significantly. Texture improved with cooking up to about 10 min. by most of the atmospheric pressure methods but was impaired by 15-min. or more cooking. At 5 lb. pressure, about 5-min. cooking was needed to obtain tender broccoli; at 15 lb. pressure, about 2 min. Usually the flavor was best developed when the texture was nearest optimum. In the parallel study on nutritive value, broccoli cooked to optimum texture retained from 60 to 85 per cent of its ascorbic acid with the methods using less than 1900 gm. water. Cooking in large amounts of water caused excessive leaching of ascorbic acid into the water and also some color and flavor loss.

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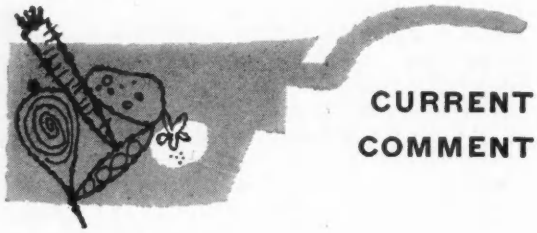
Wine in Hospital Food Service

Five years ago, Mount Zion Hospital, San Francisco, became the first American hospital, as far as we know, to include wine as a mealtime beverage, along with coffee, tea, and milk, for all patients on general diets—and is still the only American hospital which suggests and offers wine with its meals, it is believed.

Patients may check their choice of wine on their selective menus for evening meals, and may also request it for noon meals. Unless a specific type is requested, a 3½-oz. glass of the wine which will best complement the meal—usually a Burgundy, sautern, sherry, or port—will be served.

The hospital used some thirty cases of California wines each month to carry out this program.



CURRENT COMMENT

Student Employees in College Food Service

ELIZABETH M. KAISER

Manager,
Men's Graduate Center Dining Halls,
Duke University,
Durham, North Carolina

STUDENTS ARE employed in college food services generally for two reasons: first, such employment serves as a means of self-help for those needing financial assistance; and second, as part-time employees, they can handle additional work needs over peak or rush periods, whereas a full-time employee's hours would have to be utilized over less productive times.

The positions that may be held by student employees are almost unlimited, and we find them filling jobs as: cashiers, food checkers, counter servers, bus boys and girls, food runners, counter supervisors, waiters and waitresses, fountain men, short order cooks, dish and pot washers, vegetable cooks, and salad and dessert servers.

Remuneration depends on the school and food service organization. In some instances, students are paid cash on an hourly basis; often they receive their entire board for a certain number of work hours per week; cash discounts on meals are frequently allowed; and sometimes they are paid in meal "chits" of varying amounts redeemable in the college cafeterias.

College employment bureaus and deans' offices generally serve as sources for student workers, although personal contacts and recommendations of other students also provide employees.

Qualifications for employment include not only the need of the student but also the suitability of his class schedule to fit the needs of the position to be filled. Although previous background in food work is helpful, he often comes to work with little or no experience. Frequently, too, the student's attitude determines his employability. Although we are not inclined to hire a student who continually complains about the food and food service, such a student may turn out to be an excellent employee and ambassador of good will after he has become acquainted with the organization's purpose, procedures, and problems.

What the Student Expects

Because of the usual lack of experience in food service work, training of student employees is almost always necessary. In planning for their training, we must consider not only what we, as employers, expect of them, but what they, as employees, expect from the job. By understanding both of these ideas, an effective and satisfactory program of training may be developed.

Having been hired, the student, of course, wants to know first what is expected of him—his duties, to whom he is responsible, the hours of work, the type and amount of remuneration, and the possibilities for advancement. These details may be given orally or, more effectively, in an outlined job analysis sheet. Together with this information, he should be informed of the consequences of unexcused absences, lateness, and not fulfilling the obligations of the job. In some schools, student employees sign contracts stipulating the extent of their responsibilities before and after vacations, holidays, and examinations, thus insuring an initially clear understanding of these details.

The student should expect to be informed of the existence, composition, and use of a rating scale. Usually, his rating becomes part of his permanent record in the college or university personnel office and is used as reference material for prospective employers after graduation. Not infrequently, the dean of freshmen and the scholarship chairman meet with the entire freshman class and inform them of this fact before the students begin work in any position in the school.

Recognition of the dignity of his job, whether cashier or pot washer, is an important consideration the student expects to receive. All jobs are essential in food service, and this fact should be emphasized to the student so that he will feel necessary and important to the organization. Moreover, he expects his employer to have an appreciation of the many other obligations of college life. Although he must work to attend college, he is primarily a member of the student body and naturally wants to participate in as many campus activities as possible. While work schedules cannot be changed frequently to allow this participation, some adjustments could be made occasionally on big week-ends, football games, and during examination periods. Providing a workable substitution system among both student and full-time employees helps to solve this problem.

Initial orientation should cover not only all of the above information, but also an explanation of the

[1]Presented at the 41st Annual Meeting of The American Dietetic Association in Philadelphia, on October 22, 1959.

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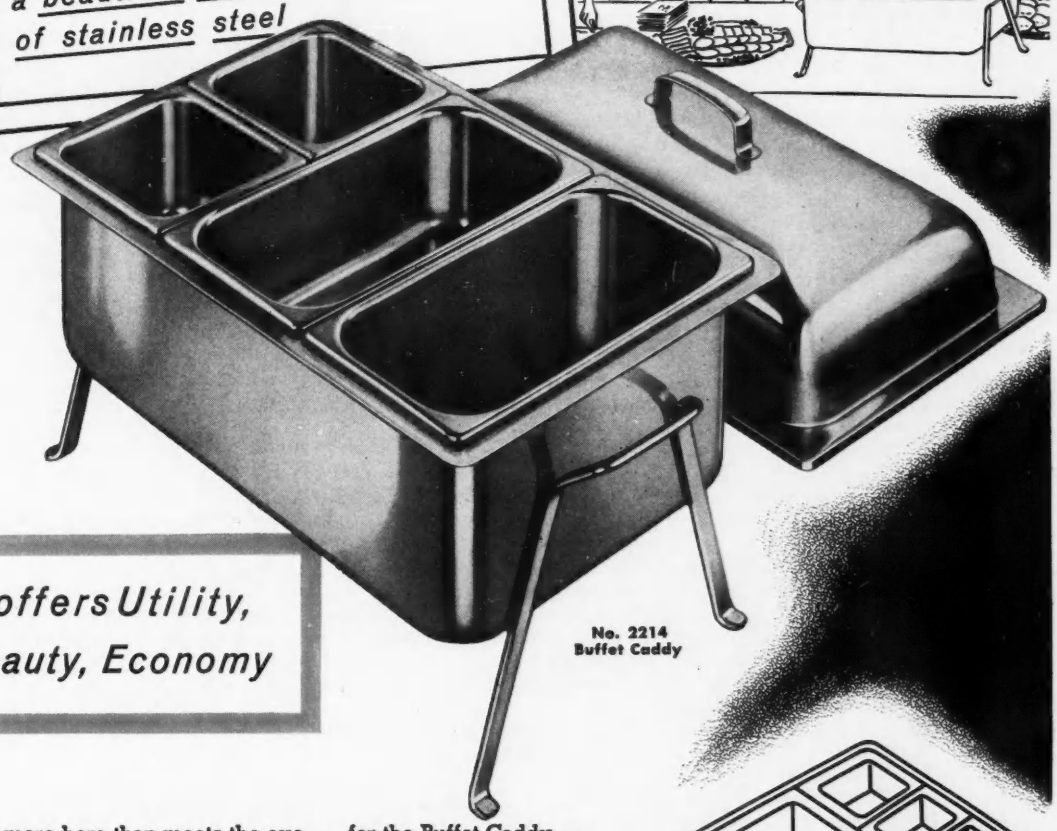

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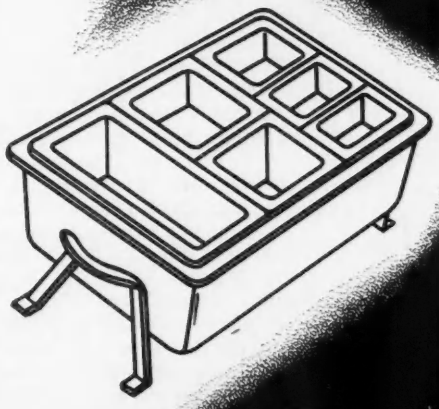

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underlying philosophy and purpose of the food service and the lines of authority.

Although the ideal method of teaching actual work skills would be for the dietitian or supervisor to show the student the exact procedures to use, this is not always possible because of the complexities of her other responsibilities. It is consequently necessary to assign a competent, full-time employee or an experienced student employee to teach him.

Except for the student whose major is foods, few student employees have had any experience in food service at all, and their conceptions of this type of work are frequently very strange. The jobs may be entirely foreign to them. The history major may find himself washing dishes at a three-tank stainless steel machine, or a divinity student may be making sandwiches and sodas behind a fountain—certainly work which neither may have ever done before. Regardless of previous experience, however, each student should be given a simple explanation of the mechanics and operation of any equipment with which he is working, the proper care needed, and the safety precautions involved. A constant check should be made to insure his following correct procedures.

The student's work should be appraised regularly by the employer and conferences scheduled as needed to discuss his progress. Group meetings may help to iron out both existing and potential problems. Posting schedules, general information, notices, and even pertinent cartoons on advantageously located bulletin boards serve as good means of communication. Great *espirit de corps* can frequently be developed through get-togethers, such as parties and square dances. And, let's not forget that "pat on the back" and word of encouragement now and then.

After the student has been properly selected and trained, what do we, as employers, expect of him? First, the fulfillment of the obligations of the job to the best of his ability; second, some appreciation of the over-all problems that arise in the organization and a willingness to "pitch-in" and help when necessary; and third, loyalty to the organization with respect to its purpose and policies.

If the student employee has been properly selected, trained, and motivated, the student employee-employer relationship can be of great benefit and credit to the student, the food service organization, and the school itself. The work experience will also become a valuable tool for the student in later life.

Extra Services to Please College Students

At Walla Walla College, an average of 1500 meals are served in the college cafeteria daily. A selective menu is offered, with food served on a per-dish basis. To please our student-customers, we have incorporated a number of extras in our operation which have proved exceedingly popular.

(a) We encourage suggestions, comments, and complaints, both written and oral. In response to suggestions, we have increased the variety of foods offered at breakfast and changed the hours to a more convenient schedule, with larger breakfast attendance the result. A marked preference for cottage cheese has led to its being placed on the menu twice a day. If there is a complaint, we not only study the problem, but occasionally even post on the bulletin board a resumé of the adjustment made.

(b) We offer music at meal time. The cafeteria facilities provide either live or recorded music at a tolerable listening level. A definite appreciation of good music and a tendency to relaxation at meals are apparent.

(c) Reading material, which is kept fresh and clean, is available in racks for customers' use while waiting in the cafeteria line.

(d) With a 4-hr. notice, we pack lunches to take out. These may be ordered in person by filling out a lunch order blank or by telephone.

(e) We visit patients and check the food service at the college clinic, which is under the supervision of a registered nurse. Modified diets are provided in cooperation with the physician in charge.

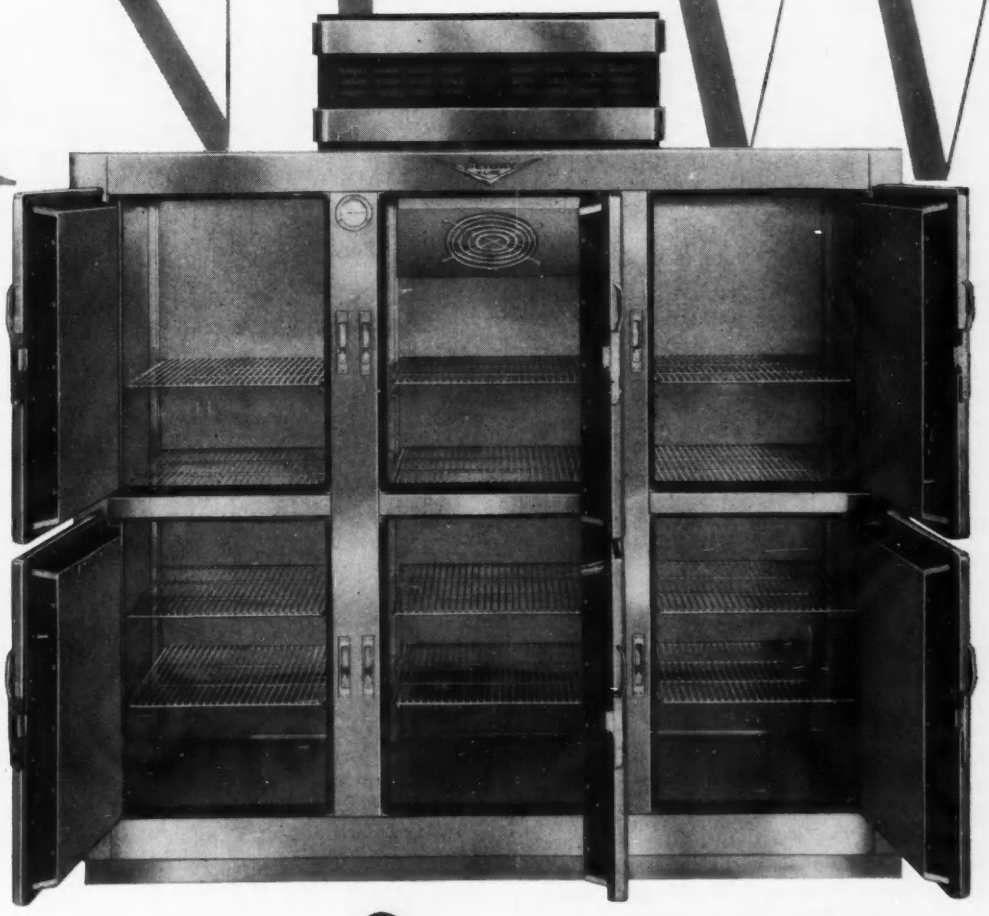
(f) The Home Economics Department of the College offers a bachelor's degree in dietetics with a major in foods and nutrition. On-the-job training, with the dietitians and cooks of our cafeteria serving as supervisors, is available for such students. Sixty of our sixty-five employees are students.

(g) One hundred family-size recipes of the dishes we serve are available.

(h) Since ours is a small community and our facilities are the largest locally, we offer a catering service not only to the College but to the community for special events, such as club meetings, banquets, and wedding receptions.

(i) Our dietitians are frequently asked to speak before campus and other groups and to give demonstrations in other schools. This we are glad to do in an effort to further our public relations. Students' wives frequently request nutrition classes and demonstrations.—*Dorothy E. Syme, Assistant Director of Food Service, Walla Walla College Cafeteria, College Place, Washington.*

NEW



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And So We Train[1]

MARY M. GRIFFIN
Supervisor of Home Economics in Charge of Cafeterias, Board of Education, Newark, New Jersey

TRAINING HAS long since outlived the old apprentice system, in which the worker learned his skills by observing and being a helper to a skilled worker for months or years, depending on the amount of skill required to become a journeyman. Today, group training and guided on-the-job training are synchronized to form the basis for an effective employee development program. In industry, this approach has proved both necessary and effective in producing skilled workers; the same applies in the food service situation.

To be most productive, a training program requires that the dietitian be primarily responsible. Management should set the stage for a training program, by giving inspiration, enthusiasm, and support. In our situation, the supervisory group—the school lunch managers—carry the responsibility for planning and executing the program, since the manager is the person who works directly with the employees and therefore is aware of the areas in which training is needed and/or would be valuable.

Any training program should be long range in scope, if it is to correct the most apparent weaknesses first and later other factors which need improvement. For any such effort to be successful, the dietitian or school lunch manager must be aware of its objectives and broad aspects. With these in mind, the results can be richly rewarding as she observes the growth and development of her employees.

I have observed on many occasions that in training an attempt is made only to teach skills. Such an approach can be most disappointing in results, for it is unlikely to produce happy, well adjusted, and valuable employees. The dietitian must first respect her employees as individuals with certain needs and personal differences. With such an attitude, she may then set up her objectives, such as: endeavoring to give an understanding of the service, stimulating interest, acquiring knowledge and skills, and developing a desire for good work habits.

In tailoring her approach to the individual, she must give careful attention to such significant considerations as:

(a) What is the average educational level of the employee? Is it sixth, seventh, or tenth grade?

(b) How long is the interest span of the group? Is it 10, 30, or 60 min.?

(c) Will the interest span vary with the type of presentation—lecture, demonstration, or pantomime?

(d) What individual differences must be considered? The answer to this question will include, among other considerations: the ultimate level of performance, rate of improvement, ability to follow instructions, degree of accuracy, and speed of work.

Growth on the job is possible only through day-by-day teaching. In our experience, the three-point teaching technique has proved best: (a) demonstrating to the employee with an explanation of each step, (b) having the employee practice under observation, and (c) giving continual guidance by checking and follow-up. If regular conferences with the employee on his progress are not scheduled, his work habits will deteriorate and his morale will be weakened. An active follow-up program to emphasize the techniques taught in group meetings or individually is the only way to insure the success of a training program.

Group In-Service Training

Group in-service training requires the combined skills of a traffic expert, teacher, visual aid expert, and script writer if meetings are to be effective in demonstrating new techniques or emphasizing old ones. In our program, we have selected topics covering cookery processes, merchandising of food, and cleaning procedures (including such elementary aspects as pot and pan washing and mopping floors). We use skits or dramatizations to: answer employees' questions regarding their rating sheets; explain what the well dressed employee wears ("Miss Do or Miss Don't"); and some over-all aspects of costs ("Where the Pennies Go"). These are but a few examples of the topics which may be dramatized.

We also have small informal group discussion sessions on such subjects as "Your Gripes and Mine," "This Is Not My Job," "Why We Have Training," "What Is Hospitality?" and "Board of Education Personnel Policies." At other meetings, short talks have been received enthusiastically. Some of these have been titled, "Attitudes," "Think Safe, Act Safe, Work Safe," "You and the Child," and "How Sanitation Pays Dividends."

The subject of "Vegetables" we found particularly difficult to present, but our Manager's Committee (composed of a group of school lunch managers) developed a program which was not only profitable to the group but enjoyable. The first part was a demonstration of cookery procedures for vegetables commonly served in the school lunch. Then followed a skit, "Vegetables Quiz Kid," written and acted by four of the managers. The trainees then visited exhibits which had been carefully labeled to show "our way" vs. other methods of cook-

[1]Presented at the 41st Annual Meeting of The American Dietetic Association in Philadelphia, on October 22, 1959.

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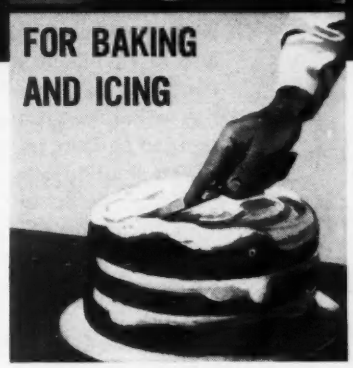

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ery in which the loss in color and texture was obvious. Portion-size servings and plate lunches were also shown, and a fresh fruit and vegetable vendor explained what constitutes Grade A vegetables and how to judge quality. The terminology, as well as the content, of this program was simple, and everyday routine tasks and chores were given an air of importance through the method of presentation.

Evaluating the Training Program

The teacher has a report card to record growth and development of a student, but as yet, we have no such tool for use in evaluating training. However, a rating sheet can be used not only as a personal record, but as an indication of the strengths and weaknesses of the training program itself, since it should reflect what the employee has learned. If your periodic ratings of employees reflect a high incidence of "fair" for attitudes and "poor" for organization, this is a signal for the program planning committee to strengthen these phases of the training program.

In measuring the effectiveness of our training program, we have often found weaknesses not in the course content but with the mechanics of operation. For instance, what about traffic? How are the groups moved quickly from place to place? Is the size of the group effective? How do you determine the right size? Are the exhibits simple, with clear-cut titles and managed by competent people who can answer questions?

Value of Training

In industry, training has the objective of improving per capita productivity. We feel that it pays dividends in improving employer-employee relationships and in morale building, as it gives the employee:

(a) A feeling of belonging to the group.

(b) Personal satisfaction when he achieves a high standard of performance.

(c) Increased knowledge as he acquires new skills and techniques.

(d) A feeling that everyone's job is important.

Dietitians' Public Relations Role in the Hospital

In the area of hospital public relations, I could not over-emphasize the importance of good food served attractively to patients, employees, and visitors. In the hospital, at least, people are more apt to understand and appreciate this phase of the service than some of the other technical and scientific services. Most hospitals over a period of time cultivate a reputation for some type of food—either good or bad; seldom is the patient indifferent in this appraisal of the hospital.

As dietitians probably know better than I, patients do not always prefer the diets their doctors order for them. Also, in most cases, patients actually do not come to hospitals by choice. Our customer in most cases probably comes to us with a feeling of anxiety and apprehension, and perhaps in some cases even resentment that he has become ill and his normal activities and earnings have suddenly been interrupted. He is incurring substantial expense without the complete freedom of exercising his choice in the matter. These conditions tend to complicate our job of having a happy customer. Yet, they also serve as a challenge to us to try to have a satisfied customer. No one in the hospital family is in a better position to help accomplish this than the dietitian.

The dietitian can help interpret the work of the hospital in the community in two other ways. In our hospital for the past several years, we have conducted open house during national Hospital Week. Guided tours are made throughout the building for visitors, particularly high school students. The food service department is an important part of our tour and presentations. Visitors seem to find this part of the hospital's operations particularly interesting.

The second is through numerous meetings of allied health groups which are held frequently in the hospital and which bring important community leaders into the hospital. We are able to accommodate most of these in our cafeteria and dining rooms with luncheon and dinner meetings. The dietitian has an opportunity to meet these important groups and to work with them on problems of mutual interest.—*Harold Bettis, Director, Moses H. Cone Memorial Hospital, Greensboro, North Carolina, speaking before the North Carolina Dietetic Association on November 13, 1958, in Greensboro.*

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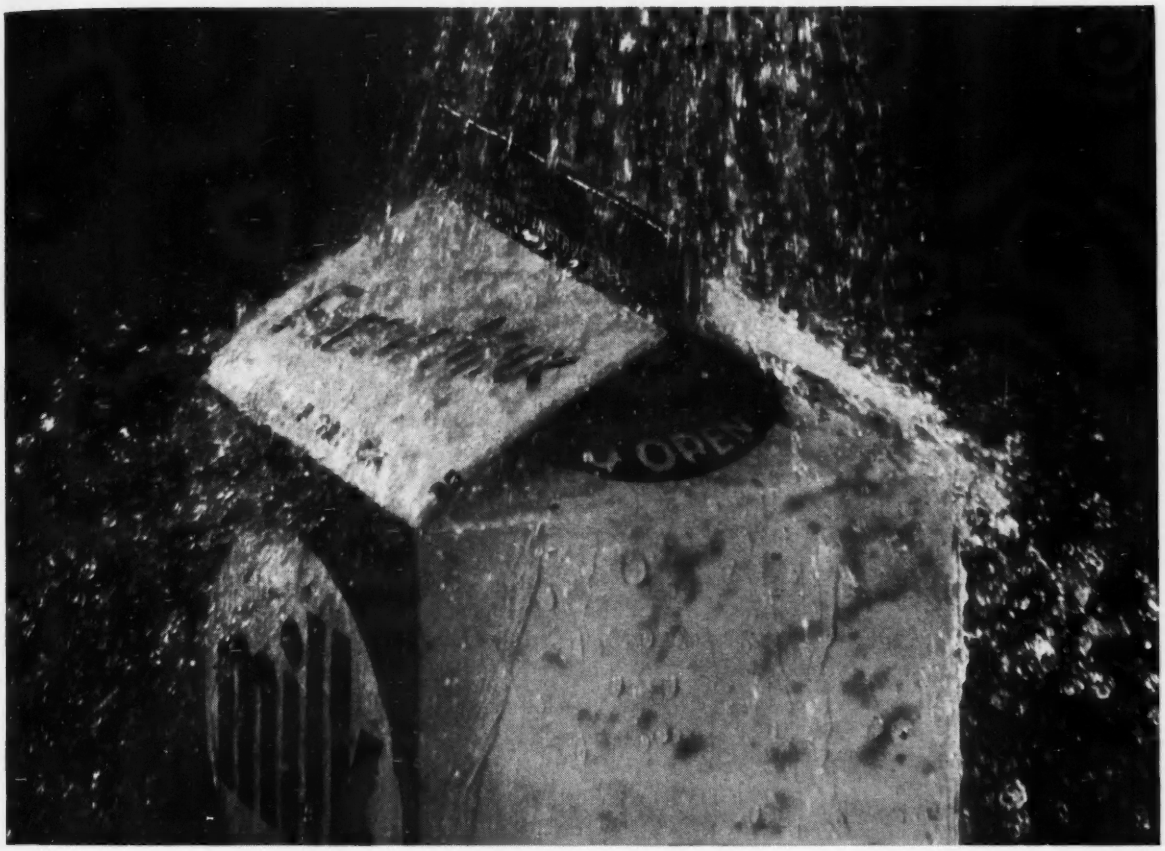

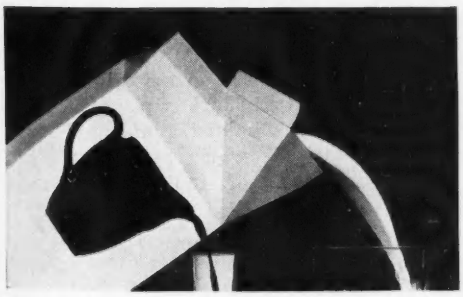

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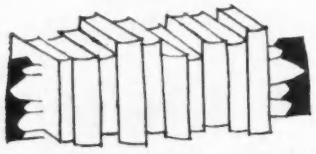


by R. Bruce Kirk, Ph.D.

ELSEWHERE IN this issue of the JOURNAL, Major Margaret E. Radke describes the case study method as a technique for the solution of group problems. The history of the case study method, its application in many organizations, and the use that Major Radke herself has made of the method are well portrayed. In her description, there stands out clearly the fact that interest of a group is high when the behavior of an individual is under discussion. People are concerned about the individual, even in a time when groups are getting bigger, organizations expanding, and populations multiplying. The interest of the dietitian, as of any leader, must also be with the individual. As employees and supervisors, dietitians are concerned with group behavior. For the whole process to be smoothly executed and the final product satisfactory, a well-functioning group is required. Yet within the group, each individual is holding a position which makes him important to the whole pattern. His behavior, his interest, and his willingness to perform are important. Each day that he behaves effectively and efficiently, the stress on the dietitian is lessened; each day that he "isn't there" (literally and figuratively), the burden is increased. It is necessary, therefore, to consider the individual as he performs. How is he thinking? What are his goals? What are his motives?

Classification by Types

Many scholars in the field of human behavior have used some standard by which to categorize all people. The most obvious classification which could be made is that of "body-build" or physique. Sheldon (1) has classified people into three groups. Food preferences, work habits, and outlook on life are closely related to whether the individual is an ectomorph, a mesomorph, or an endomorph. Hedonism is a key principle for Freud, whose theories and writings are so well known that his terms are a by-word in the modern world. His students, Adler and Jung, and his successors, the neo-Freudians, have set their own "prime motives" as the basis for categorizing people. Recognizing the power of the group, social psychologists and sociologists have studied the "culture" and seen how the individual makes his own rules and norms of the group. In all of these, there is classification, and there is implicit (though perhaps not intended) the suggestion that the individual's behavior is determined by the class to which he belongs. Yet some questions are raised. What of the combination of factors? Does the young submissive person behave like the old? The male introvert like the female? The urban ectomorph like the rural? Are the classifications too simple?

Individual Motivation

Gardner Murphy (2) has said, "The raw stuff of human motivation . . . is subject to very wide individual variations from person to person. The failure to recognize this point in the modern era has been due largely to the false dichotomies set up in the nineteenth century between hereditary traits and acquired traits. This was a natural kind of dichotomy before the nature of genetics and of embryonic growth was understood." Murphy (2) goes on to develop the theme that "The individualized pattern appears, from the present viewpoint, as the substrate which underlies most of the visible patterns of social response about us, treated by clinical, by political and by general social psychology . . ." The study of the individual must allow for age level, sex, cultural background, physique, childhood experiences, and many other factors. For most administrators, of course, such deep study would be too much; even for a leisured person, the demand would be too great.

Practical Implications

The main implications for the dietitian from the above considerations are probably these:

First, there is motivation for all individuals. The motivation is different for each.

Second, the intimate study of each individual is too great a task for the average supervisor. The limits of time and energy would not permit such a rigid scrutiny, even if the person would allow it.

Third, a general attitude toward employees and associates is called for, one of allowing for individual differences.

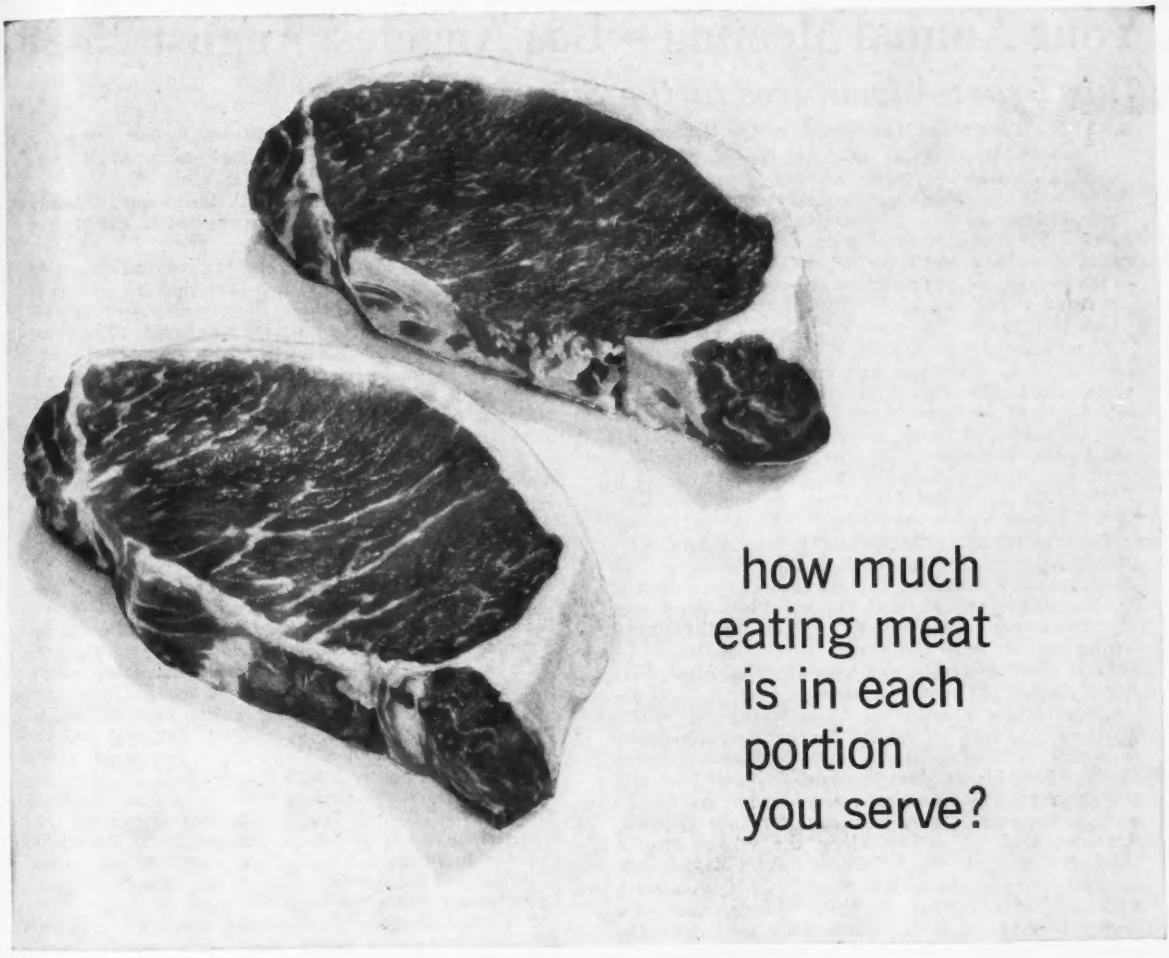
The cultural background has had its effect. The "energy level" allows for a certain kind of performance. The training has set limits to skills. The inherent need pattern, modified by experience, has shaped the motivation. The individual is unique and cannot be "classed" by job description, wage level, or term of employment. He has his own way of perceiving the world and his own goals to be fulfilled. If, as an administrator, the dietitian indicates an awareness of this, the possibility of cooperation will be greatly increased, for motivation is not simple, but complex. The long-range purpose, the short-term goal, the morning's incident, the effect of the year's achievement, all combine to weave a pattern of perception. The "simple" response to the "simple" situation may well be the culmination of a long-deferred reaction, which needed only this last incident to bring it to the surface. Each individual has many motives which affect his perceptions and performance. This fact is of utmost importance to the effective dietitian.

In summary, it is seen that the traditional tendency to classify people has its dangers. Within each class of employment, individuals exist who have very different motives, some of which are open and others unknown or unacknowledged. To make an intensive study of each individual employee is beyond the administrator's need for an attitude which recognizes the importance of individual differences.

References

(1) SHELDON, W. H., STEVENS, S. S., AND TUCKER, W. B.: The Varieties of Human Physique. N. Y.: Harper & Bros., 1940.

(2) MURPHY, G.: Social motivation. *In* Handbook of Social Psychology. Vol. II. (Lindsey, G., ed.) Cambridge, Mass.: Addison-Wesley Publishing Co., Inc., 1954.



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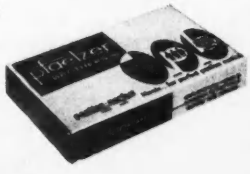

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Your Annual Meeting—Los Angeles: August 25-28

This Issue: Adventures in the Sun

MEXICO—Fascinating Land South of the Border

A week's stopover in Los Angeles should prove valuable, beyond the many advantages of attending A.D.A.'s Annual Meeting, to condition your ear to the Spanish language, in preparation for a sojourn in Mexico. It is well to develop in advance the relaxed spirit of mañana and to adjust with a casual attitude to the long names, the generous use of "z's," which have the sound of "s," and to the frequent occurrence of "j" which gaily becomes a vocal "h."

An affiliate of Pan American World Airways, identified as CMA, from Los Angeles serves many towns across the border, directly to Mexico City or to such colorful spots as Guadalajara, Acapulco, or Mazatlan. Air hops connect these communities, and bus lines serve them also. Return to the U.S. can be through American Airlines from Mexico City to Chicago, by Eastern Air Lines and Air France to New York City, or CMA back to Los Angeles.

Thus far relatively "unspoiled" by tourists, and probably quite warm in September, is the old fishing town of *Mazatlan*. Founded in 1806, the town is bordered on three sides by the ocean and wonderful beaches. Riding in a two-wheel araña, you can visit one of the largest shrimp industries in the world, traverse centuries-old, narrow winding streets, and take the Olas Altas drive which borders the ocean for miles.

An overnight breather in *Guadalajara* will enable you to sightsee in one of the four-wheel horse-drawn carriages, visiting a glass factory to observe how the familiar hand-blown glass is made. A short drive will take you to Tlaquepaque, a suburb, known for its pottery factories, where you can purchase exquisite figurines, sold by natives along the village streets.

By all means take the full day trip from Mexico City, to *Teotihuacan*, where the Temple of Quetzalcoatl, with its stone-carved serpents' heads, and the pyramids of the Moon and the Sun are located. On the drive over or back to Mexico City, pause a while at the convent of Acolmán, built by Augustinian monks in 1539. It is interesting from several points of view—because it withstood the ravages of a severe flood and because it contains religious paintings of note.

You have heard of *Xochimilco*, "Place of Flowers," a relic of the ancient floating gardens of Emperor Montezuma. In a flat-bottomed boat decorated with blossoms, you drift along canals which weave among islands on which a profusion of flowers and vegetables are growing. A carnival spirit hovers over the gliding craft of musicians and flower and refreshment vendors.

A favorite among seasoned travelers is *Taxco* (pronounced Tasco), which is built on hills. Within this town is the church of Santa Prisca, built by the silver king, Borda, out of appreciation to God for his gift of wealth. Taxco is a national monument, famous for its picturesque houses. It is required by law that all new houses be constructed to conform to the style of architecture of the town, with red tile roofs. Although Taxco is not far from Mexico City, it would be a pity not to spend the night and to capture its individual flavor and old world character.

If you wish to do so, you can drive on to the highly publicized resort of Acapulco, or you can fly there from Mexico City.

Puebla, like Taxco, deserves time for unhurried exploration. It is widely known for its cathedral and for the hidden convent of Santa Monica. You will recall that many years ago Mexican reform laws were passed, under which the government appropriated all of the churches and presumably closed all of the convents. Nevertheless, seventy-seven years afterward, it was discovered that fifty-two nuns had continued to live in this convent. Food and supplies were brought by the faithful to a secret entrance. Directly across the street from this ancient edifice the local police station was located!

Perhaps you are familiar with the famous talavera pottery and blue tile. They are created in the pottery works of Puebla.

Another one-day trip from the capital must be taken on a Friday because it is then that the market is open in the village of *Toluca*. Here mementoes of a wide variety of handicrafts may be purchased at minimal prices.

Firmly recommended is the trip to the *craft villages*, which can be arranged, as far as is known, only through Aguirre's Guest Tours in Mexico City. The itinerary covers five or six villages. You visit the homes in which the craft work is done, seeing weaving, straw basket making, wood carving with the use of primitive lathes, and pottery molding. The wares displayed at the famous Toluca market come from these villages.

HAWAII—Paradise of the Pacific

When you read about volcanic-coral islands of the Pacific, you will discover that each of Hawaii's seven islands has its individual scenic beauties and that in no instance is one a reasonable fascimile of another.

Oahu, on which the city of Honolulu is located, offers a variety of infinitely worthwhile trips; but it should not tempt you to spend your entire vacation there. The islands of Hawaii, Maui, and Kauai should be allowed two days and a night at the very least, preferably a night or two longer.

If your time will permit, spend a day on *Molokai*. The story of Father Damien and the history of the leper colony are known, but other qualities of the island are seldom stressed. The rushing tourist is not aware that Molokai is unspoiled, that it has historic interest and striking beauty.

While on *Maui*, the "Valley Isle," you *must* take the exhilarating trip up to the crater of Haleakala. From the chilly heights of the mountain, called "House of the Sun," you'll have a rare view of volcanic formations and a panorama of almost half the island. Another tour will take you through lushly tropical Iao Valley, which is located on the far side of Maui.

The "Big Island," *Hawaii*, boasts Kilauea and Mauna Loa, two snow-capped mountains, which have erupted from time to time; the scenic Hamakua coast; and the historic district of Kona where cliff burial caves, Captain Cook's monument, stone-walled sanctuaries, the oldest church, and other things of interest may be seen.

Kauai, the "Garden Island," has an impressive, small "Grand Canyon"; fish ponds built by the menehunes (gnomes); Opaikaa Falls; the Sleeping Giant of Kapaa; and the legendary caves of Waikanaloa and Maninihoio.

If you would like to go to Hawaii before our Annual Meeting, you are invited to join one of two tours which are being arranged by the American School Food Service Association. You may obtain information about these conducted trips from any office of Thomas Cook & Son, Inc. One tour leaves San Francisco and Los Angeles on July 28 and returns on August 8. The other one leaves these two cities on August 13, returning on August 24.

Remember that United Air Lines has established an American Dietetic Association Travel Service Center for your convenience in booking a post-convention tour. Write for information and request your reservation from:

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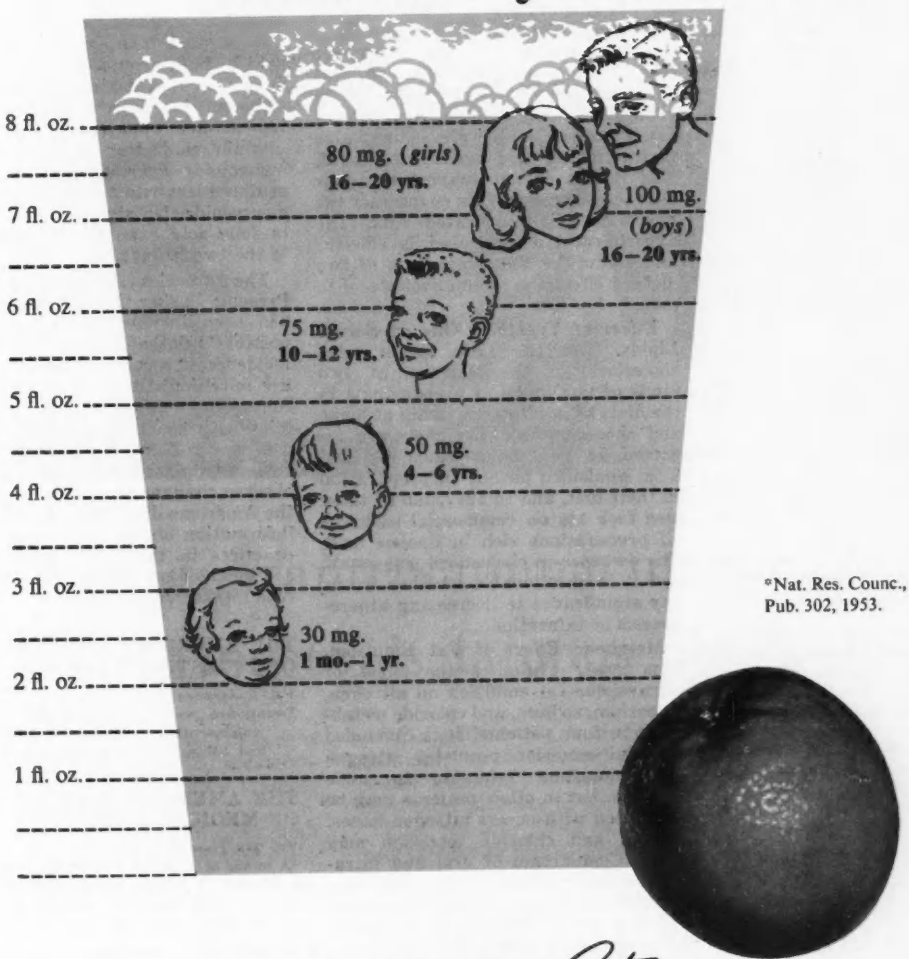

*Nat. Res. Counc., Pub. 302, 1953.

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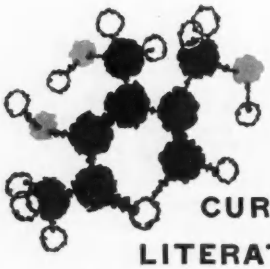

CURRENT LITERATURE

Contributed by Janette C. Carlsen, The Johns Hopkins Hospital, Baltimore; Clara Karl, University of Chicago Clinics; Carmen Esther Rivera, Sister Marie Stephen, and Luise Weber, Dietetic Interns, VA Center, Los Angeles; and the Journal staff.

THE AMERICAN JOURNAL OF CLINICAL NUTRITION

Vol. 7, January-February, 1959

*Nutrition, atherosclerosis, and infarction. F. J. Stare.—p. 3.

*Interrelations between the kind and amount of dietary fat and dietary cholesterol in experimental hypercholesterolemia. D. M. Hegsted, A. Gotsis, F. J. Stare, and J. Worcester.—p. 5.

Studies on the interrelationships between dietary magnesium and calcium in atherogenesis and renal lesions. J. J. Vitale, E. E. Hellerstein, D. M. Hegsted, M. Nakamura, and A. Farbman.—p. 13.

Serum magnesium, cholesterol, and lipoproteins in patients with atherosclerosis and alcoholism. Some preliminary observations. O. M. Jankelson, J. J. Vitale, and D. M. Hegsted.—p. 23.

*Effect of mixed fat formula feeding on serum cholesterol level in man. S. A. Hashim, R. E. Clancy, D. M. Hegsted, and F. J. Stare.—p. 30.

*The effects of various vegetable oils on the serum lipids of adult American males. M. B. McCann, M. F. Trulson, W. R. Waddell, W. Dalrymple, and F. J. Stare.—p. 35.

*Metabolic effect of fat emulsion. W. R. Waddell and H. C. Grillo.—p. 43.

*Comparison of aortic atherosclerosis in the United States, Japan, and Guatemala. I. Gore, A. E. Hirst, Jr., and Y. Koseki.—p. 50.

*Caloric intake in relation to energy output of obese and non-obese adolescent boys. P. A. Stefanik, F. P. Heald, Jr., and J. Mayer.—p. 55.

*Effect of pyridoxine administration on the urinary excretion of oxalic acid, pyridoxine, and related compounds in mongoloids and nonmongoloids. S. N. Gershoff, A. L. Mayer, and L. L. Kulczycki.—p. 76.

*The American diet—past and present. M. F. Trulson.—p. 91.

Nutrition, Atherosclerosis, and Infarction. In this editorial, Dr. Stare discusses the relationship of nutrition with atherosclerosis and infarction. He points out that one hears much about dietary fats as possible causative agents in atherosclerosis and, by implication, thrombosis and infarction. Most experimental and clinical studies in this area, however, relate to changes in the level of serum cholesterol or various lipid fractions and do not relate directly to the disease. He concludes by stating that evidence *does* indicate that nutrition is involved in various ways, and since diet is subject to manipulation, there is real promise for prevention or treatment.

Dietary Fat and Cholesterol Interrelations. An extremely large number of variables are reported to influence hypercholesterolemia and atherosclerosis in experimental studies, and there is need for experimental designs adequate to evaluate the relative importance of these variables and their interrelations. The study reported in this paper represents a preliminary effort in this direction. Five different oils, each at three levels, and two different levels of dietary cholesterol were investigated. An interpretation of results is given.

Effect of Mixed Fat Feeding. Formula-feeding experiments were conducted in ten patients with hypercholesterolemia, in which the two fats, safflower oil and an equal mixture of safflower and coconut oils, were compared with regard to their effect on serum cholesterol. Either caused a marked decrease in serum cholesterol. The results are incompatible with the proposed hypotheses that the serum cholesterol-lowering effect of a dietary fat is proportional to the iodine value or the linoleic acid content of the fat. The results do not support the view that the saturated fats counteract the effect of polyunsaturated fats. The experimental design used is efficient and useful for the comparison of two dietary effects on serum cholesterol in man.

Effect of Vegetable Oils on Serum Lipids. The effect on serum total cholesterol of the inclusion of two kinds of vegetable oil preparations in the diets of adult males living at home and choosing their own diets are reported. In 1955, twenty men included 8 oz. emulsified peanut oil preparation in their diet, and in 1957, ten of these men took 1½ oz. commercial safflower oil preparations rich in linoleic acid. The decrease in cholesterol was small, and it is questionable whether it has any significance in decreasing atherogenesis or infarction.

Metabolic Effect of Fat Emulsion. This study evaluates the effect of intravenous fat emulsion on nitrogen, potassium, sodium, and chloride metabolism in four patients. It is concluded that fat emulsion promotes nitrogen and potassium retention in some patients, but in other patients may be associated with excess nitrogen losses. Sodium and chloride retention may occur. Comparison of oral and intravenous feeding failed to demonstrate any difference in nitrogen metabolism, and the two methods are considered equivalent.

Aortic Atherosclerosis in Three Countries. The study of geographic variations in the prevalence of coronary artery disease as a measure of atherosclerosis has provided information which suggests a means of controlling the disorder. In this paper studies from New Orleans, Los Angeles, Japan, and Guatemala are compared. The rate of increase of aortic atherosclerosis is least in Guatemala and greatest in the U.S. In the latter decades of life, the disease is fully as severe in Japan as in the U.S.

Caloric Intake and Energy Output. This paper reports the average daily caloric intake and physical activity of fourteen obese and fourteen paired control non-obese adolescent boys. Comparisons between the two groups were made for the school year and at summer camp. The results indicate that the obese boys ate significantly less than the non-obese boys. Overeating, if understood in terms of eating more than average, was not typical of the obese boys. They "over ate" only in a relative sense in that their energy expenditure was depressed below an energy intake which was moderate for their sex and age group.

Pyridoxine Excretion in Mongoloids. In the present work, the effect of load tests of pyridoxine and folic acid in mongoloids and non-mongoloids was studied. The excretion of oxalic acid by both groups was markedly reduced by pyridoxine administration although the subjects had been receiving a diet apparently adequate in vitamin B_6. After pyridoxine loads, mongoloids excreted more pyridoxic acid and less vitamin B_6 than did non-mongoloids. No significant differences in folic acid excretion were observed in the two groups.

The American Diet — Past and Present. During the past decade there has been increasing interest in the possible relationship of food to the incidence of certain diseases. This has led nutritionists to seek information concerning eating practices in countries with contrasting death rates of a disease, to investigate regional differences in dietary intake, and to observe changes that have occurred in the American diet. This paper presents information on past and present food practices in the U.S. Several tables are included on the nutritive value of food intake over a long term.

THE AMERICAN JOURNAL OF DIGESTIVE DISEASES

Vol. 4, January, 1959

Twenty-five years of progress (II): Primary malabsorption syndrome — past, present and future. D. Adlersberg.—p. 8.

THE AMERICAN JOURNAL OF MEDICAL SCIENCE

Vol. 236, November, 1958

*A means of lowering elevated blood cholesterol levels in patients with previous myocardial infarction. L. E. Meltzer, A. A. Bockman, and G. H. Berryman—p. 595.

Lowering Cholesterol Levels. Although an unequivocal relationship between diet, blood cholesterol, and coronary atherosclerosis remains to be demonstrated, there appears to be sufficient suggestive evidence to support the belief that elevated blood cholesterol levels are undesirable and should be reduced in patients who have experienced a myocardial infarction, or who have diabetes mellitus. The

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most effective means of accomplishing this is uncertain. However, during a six-month "treatment" study on twenty-eight patients, evidence would indicate that the use of safflower oil (in combination with sitosterol, pyridoxine, and vitamin E) will effectively reduce elevated levels in patients with known hypercholesterolemia and presumptive atherosclerosis. It would appear that blood cholesterol can be lowered more effectively when the dietary fat intake is less than 100 gm. daily.

THE AMERICAN JOURNAL OF MEDICINE

Vol. 26, January, 1959

*The interplay of heredity and environment in the regulation of circulating lipids and in atherogenesis. D. Adlersberg and L. E. Schaefer.—p. 1.

*The effect of lipemia upon coronary and peripheral arterial circulation in patients with essential hyperlipemia. P. T. Kuo, A. F. Whereat, and O. Horowitz—p. 68.

Hereditary Environment and Atherosclerosis. There is no agreement, however, as to the pathogenesis of atherosclerosis, particularly whether it is due to genetic or environmental factors. The genetic determination of circulating lipids does not, of course, exclude the contribution of environmental factors to the regulation of these levels. Extensive clinical, epidemiologic, and experimental work indicates that dietary factors, especially fat and protein, affect serum cholesterol and presumably influence the course of arterial disease. The ratio of saturated to unsaturated fats in the diet is known to be a factor in regulating circulating cholesterol and lipoprotein levels. Less is known, but much has been hypothesized, regarding such factors as ethnic origin, occupational stress, exercise, tobacco and alcohol consumption. It is possible that the endocrine system represents the intermediary mechanism between genetically determined enzymatic chain reactions and environmental influences. Strong environmental influences can modify and even nullify the genetic predisposition. This situation may prevail among the Japanese, the rural Bantus, the Yemenites, the rural Guatemalans, and other populations. It appears then, that the interplay between genetic and environmental factors determines the susceptibility to atherosclerosis. This pertains to population groups and to individuals within population groups. Many questions remain unanswered. Little is known about the mechanisms involved in idiopathic hypercholesteremia and hyperlipemia, about changes in the tissues, and the enzymatic disturbances at the cellular level.

Essential Hyperlipemia. Rapid changes in the blood lipid levels were induced by manipulation of the dietary fat intake in six patients with essential hyperlipemia and clinical atherosclerosis. Changing blood lipid values were correlated with subjective and objective findings of cardiac and peripheral ischemia in each patient. The patients' symptoms and signs of arterial ischemia promptly improved with clearing of the lipemia. Reinstitution of high-fat feeding for seven to twenty-one days returned all patients to the state of hyperlipemia and to the same clinical status of their control period. In a given patient, manifestations of arterial insufficiency could be correlated, although roughly, with the rise and fall of serum triglyceride. Evidence indicated that hyperlipemia may, in certain patients, affect the oxygenation of arterial blood. These data add confirmative evidence that lipemia may be one factor that aggravates or precipitates acute arterial insufficiency in arteriosclerotic subjects. Satisfactory control of lipemia is, therefore, indicated in patients with severe coronary and peripheral vascular diseases.

AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY

Vol 77, January, 1959

*Further observations on the metabolism of Vitamin B_{12} in human pregnancy. H Prystowsky, A. E. Helle₂ers, E. Ranke, B. Ranke, and B. F. Chow.—p. 1.

*Liver glucose-6-phosphatase activity in pregnancy. A study utilizing albino rats. R. L. Burt.—p. 6.

*Some considerations of excessive fetal development. A study of 144 cases. R. N. Bolton.—p. 118.

Vitamin B_{12} Metabolism in Pregnancy. This study indicates that the vitamin B_{12} level and the transaminase content in the serum and the glutathione content of the erythrocytes are lower in maternal blood than that from fetal blood or non-pregnant individuals. This would seem to indicate that pregnancy is responsible for a relative deficiency of B_{12} and pyridoxine since the transaminase content is an indirect measure of pyridoxine. It also appears that this deficiency is probably due to a mechanism of selective placental absorption rather than a pathologic condition in the mother. Since glutathione plays an important role in regulating oxidative and reductive enzymes, a deficiency of B_{12} may be of possible metabolic consequence.

Glucose-6-Phosphatase in Pregnancy. Since experimental data show the influence of corticosteroids and experimental diabetes on glucose-6-phosphatase activity, the effect of pregnancy on this enzyme was studied because pregnancy has a diabetogenic influence on carbohydrate metabolism. No dietary control was exercised, but the animals were fasted 24 hr. before sacrifice. There was a decrease of glucose-6-phosphatase activity in the pregnant rat which could have been due to the endocrine influences of pregnancy.

Excessive Fetal Development. Large couples tend to have large babies. Although it is doubtful that curtailing maternal weight gain would significantly reduce birth weight, excessive development should be expected when the maternal weight gain is more than 24 lb. above her ideal normal weight. It has also been shown that there is a relationship between excessive fetal development and occurrence of diabetes in the mother at some later time. Of the 144 mothers whose babies weighed more than 10 lb. at birth, 77.1 per cent developed diabetes in subsequent years.

AMERICAN JOURNAL OF PUBLIC HEALTH

Vol. 49, January, 1959

*An epidemiological study of an outbreak of water-borne dysentery. L. N. Altshuler and D. J. Hernandez.—p. 82.

*New law on chemicals in food. Editorial.—p. 94.

Water-Borne Dysentery. An outbreak of dysentery in West Germany caused by sewage-laden water entering the final inspection shaft in the system is described. There is a possibility that the outbreak could have been averted if booster chlorinators at the reservoir had been functioning. Water-borne outbreaks of this type are relatively rare today, but this report is a reminder that the price of good waterworks practice is vigilance and alertness.

New Law on Chemical Additives. On September 6, 1958, the President signed an amendment to the Food and Drug Act which requires the manufacturer or promoter of a food additive to test it for safety on animals and submit the results to the Food and Drug Administration. If the data establish the safety of the additive, a regulation specifying the amount which may be used, the foods in which it may be used, and any other necessary conditions will be issued. Otherwise, its use will be prohibited. Details of the new law are explained in this editorial. This legislation is a major step forward in protecting the public from unsafe food additives and will benefit the food industry as well.

ANNALS OF BIOCHEMISTRY AND EXPERIMENTAL MEDICINE (India)

Vol. 18, No. 4, 1958

*Effect of supplementation of poor vegetarian rice diet with passion fruit juice and squash on the growth rate, calcium, phosphorous and nitrogen metabolism in albino rats. J. S. Pruthi, Girdharilal, M. Swaminathan, and V. Subrahmanyan.—p. 107.

*Association of *Escherichia Coli* types with gastro-enteritis in different age groups. A. Banerjea, D. N. Chatterjee, and R. N. Mukherji.—p. 121.

Effect of Different Diets. The microorganisms inhabiting the intestines play a vital role in the maintenance of normal health of the host. This study deals with the changes in the intestinal microflora of rats fed on diets rich in different cereals, tubers, and pulses. Results are discussed.

***E. Coli* Types.** This article deals with the third in the series of yearly investigations to study association of specific serologic types of *E. Coli* with

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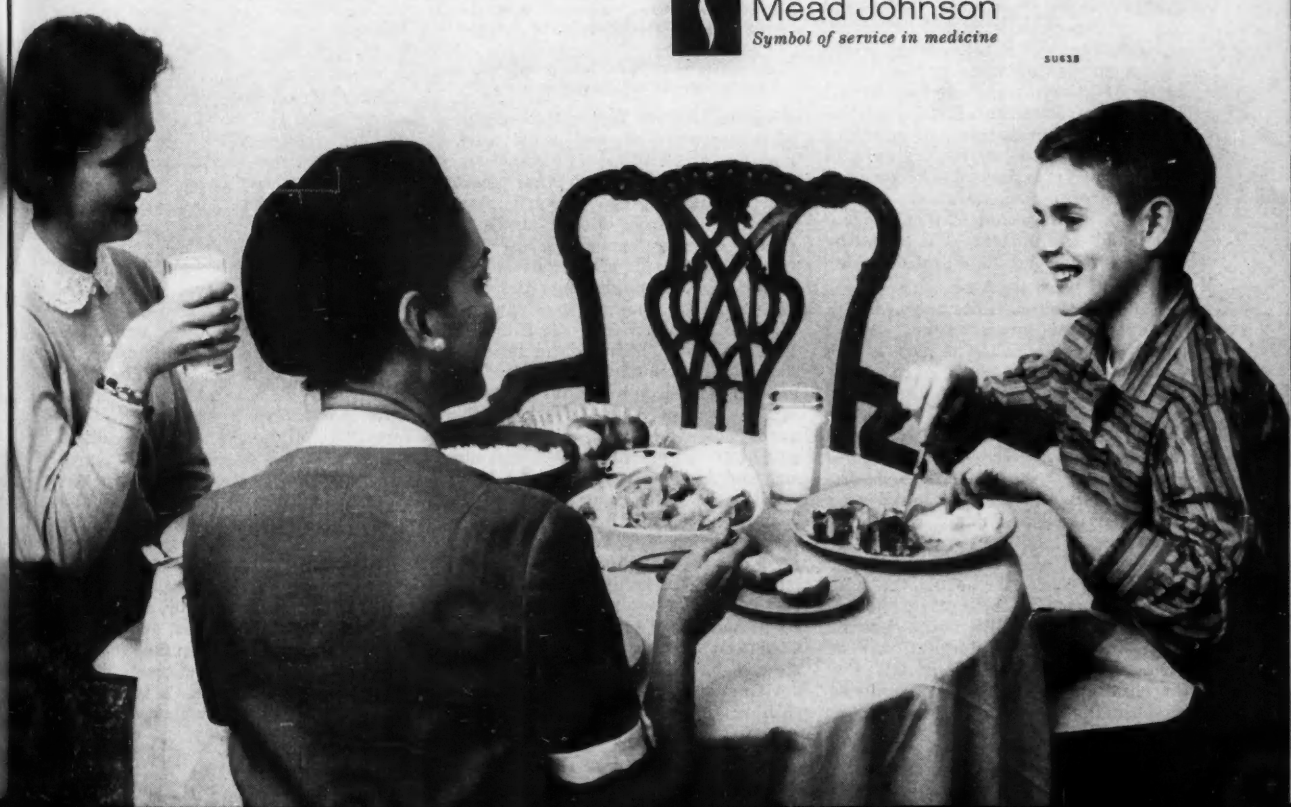

the widespread gastro-enteritis that occurs in Calcutta in summer. The types of *E. Coli* found are discussed.

BRITISH MEDICAL BULLETIN

Vol. 15, January, 1959

*Haematology—Symposium of 14 papers in a special issue.

Hematology. This special issue takes the form of a symposium that includes fourteen papers by leading British specialists in hematologic research. There are valuable papers on the hemolytic anemias. Several articles record the successful exploitation of techniques involving the use of radioactive tracers in the formation, survival, and destruction of red blood cells. Also included are contributions on iron absorption, the role of folic acid and vitamin B_{12} in blood disorders, and valuable information on the biosynthesis of hemoglobin. An epidemiologic study of leukemia in man is reported, as well as a valuable appraisal of present-day treatment of the chronic form of this disease.

BRITISH MEDICAL JOURNAL

No. 5112, December 27, 1958

*Too solid flesh.—p. 1581.

No. 5113, January 3, 1959

*Endemic goitre.—p. 36.

No. 5114, January 10, 1959

*Maple-syrup urine disease. D. Y. MacKenzie and L. I. Woolf.—p. 90.

Too-Solid Flesh. Simple obesity was not so simple. Daily exercise to prevent obesity can no longer be ignored. When activity is reduced, appetite is sustained and weight is consequently increased. What is now needed is the collection of more facts, not only to elucidate the deviations of the central and peripheral mechanism at work but also to correct these in the individual patient. There is in some recent literature a disposition to decry the importance of attempting to reduce weight by dietary restriction. Insofar as this emphasizes the importance of increased exercise, one can heartily agree with it, and when it represents the need for more careful consideration of the patient's history, constitution, personality, and environment, it is a healthy reaction from the diet-sheet-over-the-counter policy.

Endemic Goiter. Goiter occurs with varying intensity in almost every country of the world. The most severe endemics of goiter are in high mountain areas—the slopes of the Himalayas, the Swiss Alps, and the Cordillera of the Andes being probably the best known examples. Goiter also occurs in low-lying areas, such as the Netherlands, and is often found near the sea as well as inland. Where the iodine content of the soil is low, the iodine intake of the people will also be low. The poorer the people, the more directly dependent they are on the soil and under such conditions the endemic may be severe. The simplest way of giving iodine to people is in salt. For the children iodide can be introduced in the manufacture of sweets, and in areas where salt is prepared locally, iodide can be added to the flour. Many countries have introduced iodized salt and are reaping the benefits. Great Britain has still to take this step. Simple goiter is the easiest of all known diseases to prevent. It may be excluded from the list of human diseases as soon as society determines to make the effort.

Maple Sirup Urine Disease. A grossly mentally retarded infant was found to excrete large amounts of keto-acids; these were identified as the alpha-keto-acids corresponding to valine, leucine, and isoleucine. The free amino acids were also found in great excess in the urine and blood. The urine had a characteristic smell resembling maple sirup; this seems to be largely due to the alpha-hydroxy-acids corresponding to valine, leucine, isoleucine. It seems probable that this is an inborn error of the metabolism of the three amino acids with a block at the oxidative decarboxylation stage. Tryptophan metabolism is also interfered with, as in phenylketonuria. Differentiation of this condition from phenlyketonuria needs special care.

FOOD TECHNOLOGY

Vol. 13, January, 1959

*Poultry tenderness. I. Influence of processing on tenderness of turkeys. A. A. Klose, M. F. Pool, M. B. Wiele, H. L. Hanson, and H. Lineweaver.—p. 20.

*Poultry tenderness. II. Influence of processing on tenderness of chickens. M. F. Pool, D. de Fremery, A. A. Campbell, and A. A. Klose.—p. 25.

*Clinical and epidemiological observations on the influence of fats in the diet. F. J. Stare.—p. 33.

The visible fats in our diet. K. F. Mattil.—p. 46

Experimental studies on dietary fats, cholesterol, and atherosclerosis. J. Stamler.—p. 50.

*Fats make good foods—where and why are the margins? C. G. King.—p. 6.

Tenderness of Turkeys. Tenderness of turkey fryers and some turkey roasters was studied as a function of conditions of scalding, feather picking, and holding (aging) at various temperatures before, during, and after frozen storage. Tenderness of turkey fryers increased progressively with increase in aging (chilling) time up to at least 12 hr. Changes were rapid and highly variable within the first 4 hr. Little if any additional tenderization took place from 12 hr. to 24 hr. postmortem, and even to a total aging time of four or five days. Turkey roasters appeared to be adequately tenderized after only 4 hr. chilling. For the same size and age of turkey, deep-fat frying resulted in much tougher meat than roasting. Holding inadequately aged, frozen turkey fryers for as long as nine months at 0°F. had no tenderizing effect, but holding at 25° to 27°F. for one to two weeks produced appreciable tenderization. Holding fryers in a thawed (35°F.) state after frozen storage had essentially as much tenderizing effect as an equal period of chilling before freezing. An elevation of the holding temperature to as much as 100°F. for 4 hr. did not produce adequate tenderization. Either increased scalding temperature or increased scalding time, within commercial ranges, had significant but small toughening effects. Machine picking as employed in these studies resulted in cooked meat about twice as tough as for hand-picked controls. At present, optimum tenderness can be assured only through careful attention to chilling (aging) periods, feather picking conditions, and scalding practices.

Chicken Tenderness. Tenderness of chicken fryers was studied as related to conditions of scalding, feather picking, chilling or aging, and frozen storage. Effects reported for turkey fryers (above) were in general observed for chickens, too, although effects with chickens were not as large and possibly not as critical commercially.

Atherosclerosis and Diet. Although most epidemiologists would agree that the differing incidences of coronary artery disease in various population groups are related to a mode of life, it has not been conclusively established that dietary factors, and specifically total fat intake, are of primary etiologic importance. In general, adults who are not overweight, without any family history of early death from heart disease, and with relatively low serum cholesterol need make no changes in their diet, assuming they already consume a well balanced diet. Obese and non-obese individuals with consistently elevated cholesterol levels have somewhat more reason to try to lower them, particularly if there is a family history of early death from cardiovascular disease. Individuals who have had a "coronary" are "sick patients," and recommendations for them should be on an individual basis and should come only from their doctor.

Fats Make Good Foods. Fats of many kinds and great complexity are characteristic of all living organisms; and the human body, like others, is capable of adjusting a great variety and wide quantitative range of lipid materials into its normal functions. As with other nutrients, the margins of relative safety and optimum intakes over a long-time interval are not well established. A well balanced diet normally includes a variety of edible fats within the range of about 20 to 40 per cent of total calories. The tolerance range for carbohydrates apparently is even greater, and for the protein, distinctly lower but more critical. The advantages in flavor, satiety, consistency, appearance, economy, convenience, caloric efficiency, and practical sources of vitamins and essential fatty acids can be achieved readily within wide ranges of intake from both plant and animal foods. The latter are especially important, however, as sources of good quality proteins, water-soluble vitamins, minerals, and flavor. The cholesterol content of edible fats normally does not constitute a hazard because of the body's capacity for ad-

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References: 1. Fomon, S. J., and May, C. D.: Pediatrics *22*:101 (July) 1958. 2. Fomon, S. J.; Thomas, L. N., and May, C. D.: Pediatrics *22*:935 (Nov.) 1958. 3. May, C. D.: Pediatrics *23*:384 (Feb.) 1959. 4. Fomon, S. J., and May, C. D.: Pediatrics *22*:1134 (Dec.) 1958.

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justing its own synthesis and disposal. Research is needed to establish the significance of a great number of variables that effect fat tolerances and advantages.

JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY

Vol. 7, January, 1959

*Protein distribution in fresh and stored shell eggs from hens fed crude cottonseed oil. R. J. Evans, S. L. Bandemer, J. A. Davidson, and D. H. Bauer.—p. 47.

*Carotene and ascorbic acid content in improved sweet potato variants. H. B. Cordner, R. Reder, and G. Odell.—p. 53.

Egg Protein Migration. Hens fed rations containing crude cottonseed oil produce eggs that develop pink whites and large salmon-colored yolks after six months or more of cold storage. Protein migrates from the white to the yolk. The composition of the migrating protein was calculated from changes in protein distribution in whites and yolks of fresh and stored shell eggs as determined by paper electrophoresis. Results are discussed.

Sweet Potato Nutrients. The value of the sweet potato as a source of vitamins is not yet fully appreciated. This investigation shows that the full potential of improved vitamin content in the sweet potato is not found in varieties available to consumers. The carotene and ascorbic acid contents might be increased from present levels.

JOURNAL OF THE AMERICAN GERIATRICS SOCIETY

Vol. 7, January, 1959

*Etiology of severe obesity: A study of five cases. M. B. Fertman.—p. 38.

Etiology of Severe Obesity. This report concerns five extremely obese women who were carefully studied for possible clues as to the development of the obesity. In four of the women, at least one other member of the family was known to be obese, whether by heredity, habit, or coincidence. Four of the five patients noted excessive appetite and complained of nervousness or a nervous disorder. Prolonged bed rest in illnesses may have been either a causative or a contributing factor to some of the weight increase. In four of the five women, gains in weight paralleled physiologic (catamenia, pregnancy, menopause) or pathologic gonadal changes. It is stressed that careful autopsy studies, particularly with regard to the endocrine glands and the hypothalamus, may be of utmost value in understanding the development of severe obesity.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

Vol. 169, January 10, 1959

*Salt intake during pregnancy. Questions and Answers.—p. 200.

*Nutrition for a patient with twenty centimeters of jejunum. Questions and Answers.—p. 201.

*Celery contact dermatitis. Questions and Answers.—p. 201.

Vol. 169, January 31, 1959

*Typhoid from oysters. Foreign Letters—United Kingdom.—p. 524.

Vol. 169, February 7, 1959

*Soya oil and cholesteremia. Foreign Letters—France.—p. 631.

Salt Intake During Pregnancy. Most normal women in pregnancy are told to curtail salt ingestion. However, the theory is now arising that extra salt in the diet seems to be essential for the healthy, pregnant woman and her baby. Many obstetricians, notably Dieckmann, have emphasized the dangers of salt during pregnancy. However, Dieckmann has stated that in only 25 per cent of presumably abnormal patients in the toxemia clinic was there an association with sodium salts. It is evident that the relationship of salt intake to pregnancy, and particularly to the toxemias, requires elucidation.

Nutrition and Intestinal Resection. A patient is described who, after radical surgery, has 20 cm. jejunum and a few centimeters of colon. Giving this patient high-calorie, high-vitamin, and high-protein diets is good. There are no predigested foods that have any great advantage over well cooked, well prepared foods, provided they are slowly eaten and chewed well. Canned baby foods are popular, though it is not known whether they are of any great advantage. A concentrated protein is a potent source of nitrogen nutrition. Intravenous therapy should replace electrolytes, and blood may be needed.

Celery Contact Dermatitis. Workers in celery fields in Michigan often develop a large number of severe dermatoses, consisting of erythema, edema, vesicles, and large bullae. The rapid onset of the eruption within 24 to 48 hr. suggests contact with a primary irritant. On the other hand, if the workers had been exposed previously to harvesting celery, the rapid onset could be an allergic response. The celery may have been sprayed with a fungicide or pesticide containing an irritant and/or sensitizing chemicals. The prognosis for these workmen depends on determination of these basic factors, because contact dermatoses caused by irritants can be prevented more readily with personal protective measures than can allergic dermatoses.

Typhoid from Oysters. Six cases of typhoid in London were traced to the eating of infected oysters from West Mersey, Essex. If infection of oysters from West Mersey continues, a cleansing station may be set up there. Most oyster fishermen in Britain must submit their catches to bacteriologic control before marketing. The possibility of infrared sterilization of oysters is being considered.

Soya Oil and Cholesteremia. Studies, first with rabbits and later with human subjects, were conducted to determine the effect of soya oil, a highly unsaturated fat with high iodine number and beta sitosterol, on serum cholesterol. In rabbits, serum cholesterol fell to about 73 per cent of the initial value after feeding 3 ml. soya oil per kilogram body weight for periods not exceeding eight days. In six human subjects given 1.5 cc. soya oil before each of two main meals, total cholesterol fell to 85 per cent of initial value in six to eleven days. In nine other subjects, the experiment was continued longer (average, sixty-three days), and results varied. It is concluded that the action of soya oil on cholesteremia is questionable, and that factors other than the nonsaturation of fats must determine blood cholesterol level.

THE JOURNAL OF CLINICAL INVESTIGATION

Vol. 37, December, 1958

*The levels of individual free amino acids in the plasma of normal man at various intervals after a high-protein meal. E. G. Frame.—p. 1710.

Free Amino Acids after a High-Protein Meal. Free amino acids in the plasma from systemic blood have been determined in six normal subjects before, and at intervals up to 8 hr. after, a high-protein meal. Most of the amino acids increased in concentration after the meal, but the rises did not parallel the relative amino acid composition of the food. Also, the relative distribution of the different amino acids in the plasma after the meal differed from that in the fasting state. The concentrations of some of the amino acids, notably valine, leucine, isoleucine, rose markedly after the meal and even after 8 hr. were higher than fasting values. Alanine and probably glycine fell to levels as low as 66 per cent of the fasting values in 6 to 8 hr. Arginine, cystine, histidine, lysine, and proline fell to values significantly below fasting after 6 to 8 hr. Lysine and to a lesser extent arginine were characterized by a marked early rise in concentration followed by a leveling off or a decrease in the levels. Glutamic acid, methionine, phenylalanine, serine, threonine, and tyrosine increased moderately in concentration and did not at any time fall below the fasting levels.

JOURNAL OF HOME ECONOMICS

Vol. 51, January, 1959

*Source of calories in the recorded self-chosen diets of women. R. M. Leverton, J. M. Ellison, M. T. Childs, A. F. Carver, and D. Twardock.—p. 33.

*Chinese cooking of vegetables preserves color, texture, flavor. D. C. Lee and M. Spader.—p. 43.

Self-Chosen Diets of Women. One of the objectives of the North Central Regional Project on the Nutritional Status of Population Groups was to study the nutritive value of self-chosen diets of women. The results discussed in this paper show: (a) the extent to which the diets met the Recommended Dietary Allowances, (b) what proportion of the total calories was furnished by the different kinds of foods, and (c) whether there were differences in the nutrient and

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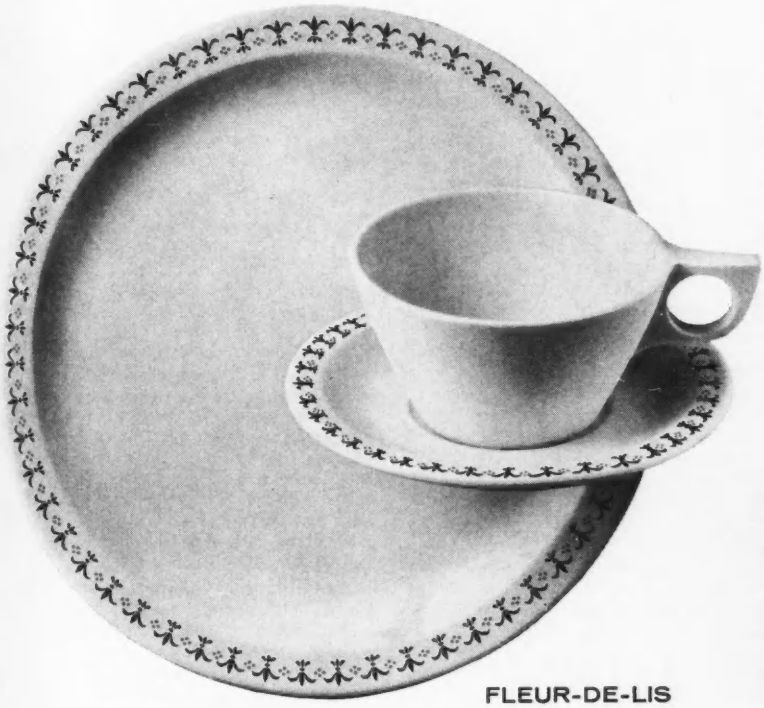

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food intakes of women in different age decades. It is hoped that the results can help in planning nutrition education measures.

Chinese Cooking of Vegetables. The chief difference between American and Chinese vegetable cookery is that oil is the Chinese cooking medium while water is favored here. The fact that oil reaches higher temperatures than water accounts for the crisp texture and fresh, bright color of vegetables served in Chinese restaurants. The hot oil (350° to 375°F.) seals the juices within the vegetables so there is no juice escaping to be cooked down or discarded. The high temperature also reduces the cooking time, which prevents collapsing of the vegetables. Oil also serves as a distributor for flavors bringing out the best qualities of each food in combination dishes. The method of cooking vegetables fast in shallow oil is known as *ch'ao* in the Chinese cooking vocabulary.

JOURNAL OF THE INDIAN MEDICAL ASSOCIATION

Vol. 31, November 16, 1958

*An experiment in interruption of man-to-man faecal and helminthic circulation in rural community. S. N. Marwah.—p. 403.

Vol. 31, December 16, 1958

*Deficient nutritional states. G. S. Mahapatra.—p. 483.

Environmental Sanitation. A small experiment was conducted in the rural areas of a section of India to break the man-to-man fecal and helminthic cycle which is responsible for such heavy morbidities and mortalities. This experiment was limited to the safe disposal of human excreta.

Deficient Nutritional States. Though standards have been worked out according to the needs for proper nutrition, economic stress may influence the choice of diet. Various syndromes due to malnutrition and deficient nutrition become manifest. In this paper, clinical observations made in this respect in Orissa, India, which has a poor economic standard, are presented.

JOURNAL OF LABORATORY AND CLINICAL MEDICINE

Vol. 52, December, 1958

Radioactive vitamin B_{12} in the liver. I. Hepatic uptake of $Co^{60}B_{12}$ in liver disease. G. B. J. Glass, L. J. Boyd, and L. Ebin.—p. 849.

*Radioactive vitamin B_{12} in the liver. II. Hepatic deposition, storage, and discharge of $Co^{60}B_{12}$ in dogs. G. B. J. Glass and W. L. Mersheimer.—p. 860.

*Radioactive vitamin B_{12} in the liver. III. Hepatic storage and discharge of $Co^{60}B_{12}$ in pernicious anemia. B. G. J. Glass.—p. 875.

Vol. 53, January, 1959

*Folic acid and vitamin B_{12} in pernicious anemia. Studies on patients treated with these substances over a ten-year period. J. J. Will, J. F. Mueller, C. Brodine, C. E. Kiely, B. Friedman, V. R. Hawkins, J. Dutra, and R. W. Vilter.—p. 22.

Vitamin B_{12} in Dogs' Liver. The purpose of the study was to collect information on mechanisms regulating the hepatic storage and discharge of vitamin B_{12}. Eight dogs were given 0.15 mcg. radioactive $Co^{60}B_{12}$ intramuscularly and 0.6 mcg. radioactive B_{12} orally, the dosage being 0.12 and 0.15 mcg. per pound of weight. They were kept on a meatless "dog food complete ration." In spite of the content of meat meal and alfalfa meal in the ration, this dietary regimen resulted in the development of a vitamin B_{12} deficiency. After parenteral administration of radioactive B_{12}, the concentration was highest in the kidney, next highest in the pancreas; then, in descending order, in the spleen, liver, lungs, and small intestine. The fraction of tagged B_{12} stored in the liver was higher with the injection of smaller doses. It was less with larger doses although the total amount of B_{12} stored was greater.

Vitamin B_{12} in Pernicious Anemia. This investigation was made to collect information on the kinetics of hepatic storage and discharge of radioactive vitamin B_{12} in patients with pernicious anemia. Eight patients and ten controls were studied following parenteral or oral administration of radioactive vitamin B_{12}. Observations were started on the seventh to the fourteenth days when hepatic radioactivity reached a peak and began to decline. The results showed no evidence that the slopes of hepatic discharge of radioactivity in the control group were less steep than in those with pernicious anemia. It is to be expected that the rate of discharge of B_{12} from the liver will be slower in patients saturated with vitamin B_{12} than those with advanced deficiency. In three cases, the rate of discharge was slower following saturation of B_{12} stores by parenteral treatment with B_{12}. The authors conclude that the hepatic storage of B_{12} may vary over a wide range.

Folic Acid and B_{12} in Anemia. Between 1945 and 1948, forty-six persons with pernicious anemia were placed on an oral regimen of 30 mg. of folic acid. These patients were compared with patients maintained on vitamin B_{12} given parenterally. Several subjects from these groups were studied to learn the effects of large doses of folic acid in neurologic disease: on losses of vitamin B_{12}; on urinary excretion of folic acid and folinic acid; and on serum vitamin B_{12} levels. Only three of thirty-six patients maintained on folic acid alone were in a satisfactory hematologic condition. Those who had no previous liver extract or vitamin B_{12} therapy relapsed sooner. No evidence was found that folic acid directly affects vitamin B_{12} metabolism or increases the requirements for this vitamin in the patient with pernicious anemia. Evidence is presented that suggests that vitamin B_{12} influences folic acid metabolism by releasing folinic acid from its tissue conjugates and by facilitating the reduction of folic acid to folinic acid.

THE JOURNAL OF NUTRITION

Vol. 66, December, 1958

*Supplementation of cereal proteins with amino acids. 1. Effect of amino acid supplementation of corn-masa at high levels of protein intake on the nitrogen retention of young children. N. S. Scrimshaw, R. Bressani, M. Behar, and F. Viteri.—p. 485.

*Supplementation of cereal proteins with amino acids. 2. Effect of amino acid supplementation of corn-masa at intermediate levels of protein intake on the nitrogen retention of young children. R. Bressani, N. S. Scrimshaw, M. Behar, and F. Viteri.—p. 501.

*Essential fatty acids in infant nutrition. 2. Effect of linoleic acid on caloric intake. D. J. D. Adam, A. E. Hansen, and H. F. Wiese.—p. 555.

*Essential fatty acids in infant nutrition. 3. Clinical manifestations of linoleic acid deficiency. A. E. Hansen, M. E. Haggard, A. N. Boelsche, D. J. D. Adam, and H. F. Wiese.—p. 565

*Some aspects of tryptophan metabolism in human subjects. 1. Nitrogen balances, blood pyridine nucleotides and urinary excretion of N^1-methylnicotinamide and N^1-methyl-2-pyridone-5-carboxamide on a low-niacin diet. V. M. Vivian, M. M. Chaloupka, and M. S. Reynolds.—p. 587.

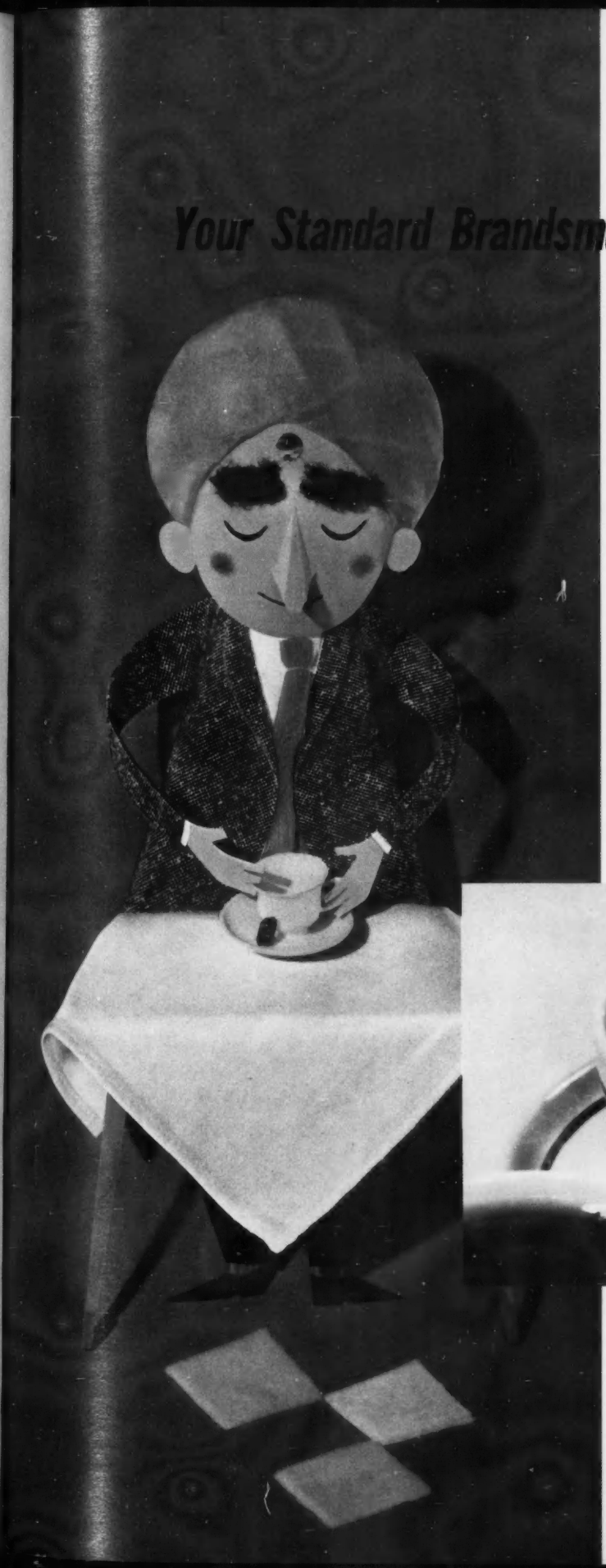
*Some aspects of tryptophan metabolism in human subjects. 2. Urinary tryptophan metabolites on a low-niacin diet. R. R. Brown, V. M. Vivian, M. S. Reynolds, and J. M. Price.—p. 599.

Supplementing Corn with Amino Acids. This paper is the first in a series of studies designed to evaluate the FAO "reference pattern" by using it as a base for the supplementation of food proteins fed to children recovering from severe protein malnutrition. The effect of progressively supplementing corn protein with those amino acids indicated to be limiting was measured by studying the subsequent nitrogen retention in children fed approximately 3.0 gm. protein and 100 calories per kilogram body weight per day. Results revealed that good nitrogen retention and satisfactory gain in weight can be obtained.

Amino Acid Supplementation of Corn. This second paper explores the effect of amino acid supplementation of corn protein at levels of 2.0 and 1.5 gm. protein per kilogram which are relatively low for children of this age and physiologic state. In general, the results confirm those obtained previously at the level of 3.0 gm. protein per kilogram body weight, but the responses to the amino acid additions are of smaller magnitude.

Linoleic Acid and Caloric Intake. It has been observed previously that caloric consumption varied with the amount of linoleic acid in the diet. This study presents data concerning the influence of dietary fat on caloric intake in healthy infants. On the basis of the data presented, it appears that in infants optimum caloric efficiency is attained when linoleic acid comprises about 4 per cent of the caloric intake.

Linoleic Acid Deficiency. In an infant feeding study, infants fed on a skim milk diet extremely low in fat and linoleic acid, although otherwise nutritionally adequate, showed certain signs and symptoms. Within a short time, most of the infants developed



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frequent large stools and perianal irritation. Alterations in the skin occurred. The first sign observed was dryness, then thickening, and later desquamation with oozing in the folds. The addition of linoleic acid restored the skin to a normal, soft, moist texture and appearance within one to two weeks.

Tryptophan Metabolism. This paper presents the results from an investigation of the metabolic use of tryptophan in human subjects on a low-niacin, low-tryptophan, semi-synthetic diet supplemented with gradually increasing levels of tryptophan. The data obtained suggest that the human subjects used tryptophan first to maintain nitrogen balance and then to produce blood pyridine nucleotides. Further increase in the tryptophan intake was associated with an increased urinary excretion of niacin metabolites.

Tryptophan Metabolism and Niacin. Studies have shown that when a limited amount of tryptophan was provided in a diet low in niacin, the amino acid was used preferentially to maintain nitrogen balance and used for niacin synthesis only after nitrogen balance was achieved. The purpose of this study was to measure the urinary excretion of intermediates between tryptophan and niacin by subjects receiving low levels of niacin and graded amounts of tryptophan added to a semi-synthetic diet. It appeared that conversion of tryptophan to niacin continued at all times during the study. Results are discussed.

JOURNAL OF PEDIATRICS

Vol. 54, January, 1959

*Effect of socioeconomic status on the vitamin content of milk. A. D. Deodhar and C. V. Ramakrishnan.—p. 34.

*Comparison of intramuscular iron-dextran and oral ferrous sulfate in the treatment of iron deficiency anemia. W. L. Yu, K. Manonmani, and R. J. Watson.—p. 50.

Vitamin Content of Human Milk and Economic Status. In most communities in India women breast feed their infants for prolonged periods. The mother's milk is the main or only source of nutrition in the majority of cases. Milk samples were collected from 175 healthy lactating women belonging to different socio-economic groups and analyzed for thiamine, vitamin B_{12}, and pantothenic acid. While the amount of pantothenic acid and vitamin B_{12} increased with socio-economic status, thiamine in the very poor group was superior to the other groups. This superiority is statistically significant.

Treating Iron Deficiency Anemia. Seventy-two children with nutritional iron-deficiency anemia were given iron-dextran complex intramuscularly. The average gain in hemoglobin in the first and second weeks was 2.1 and 2.2 gm. per 100 ml. in the 28 uncomplicated cases, 1.8 and 1.7 gm. per 100 ml. in 19 cases complicated by infection, and 0.7 and 1.3 gm. per 100 ml. in 9 cases complicated by lead poisoning. In 12 patients with uncomplicated iron-deficiency anemia receiving weekly injections, the gain for the first week was 1.4 gm. per 100 ml. and 2.3 gm. for the second week. In the oral iron group, this gain was about 1.0 gm. per 100 ml. each week. Intramuscular iron seems a faster, surer way of replenishing depleted iron stores.

THE LANCET

No. 7061, December 27, 1958

*Megaloblastic anaemia of pregnancy and the puerperium. C. Giles and E. Shuttleworth.—p. 1341.

No. 7063, January 10, 1959

Malnutrition in Uganda. J. McFie.—p. 91.

No. 7064, January 17, 1959

*The effect on human serum-lipids of a dietary fat, highly unsaturated, but poor in essential fatty acids. E. H. Ahrens, Jr., W. Insull, Jr., J. Hirsch, W. Stoffel, M. L. Peterson, J. W. Farquhar, T. Miller, and H. J. Thomasson.—p. 115.

Megaloblastic Anemia of Pregnancy. During a period of fifteen months, 474 cases of anemia in late pregnancy and the puerperium were investigated. In ninety cases a megaloblastic marrow was found, twenty-eight of them in the puerperium. All cases were treated with folic acid. The majority of patients responded to treatment. Anemias with a hemoglobin of less than 45 per cent were more often megaloblastic than normoblastic. Achlorhydria occurred in 37 per cent of cases, and fat absorption was impaired in four instances. No special seasonal incidence was noted. Gastrointestinal symptoms were uncommon, and the incidence of complications was not substantially higher than in normoblastic anemias. In 42 per cent of the women with megaloblastic anemia, the diet was poor, compared with 12 per cent of the cases of normoblastic anemia and 4 per cent of healthy controls. The difference was even greater in a comparison of meat intake.

Dietary Fat and Serum Lipids. A menhaden-body oil, acceptable for human consumption in large quantities over a long period, was used in dietary experiments on a metabolic ward. Essential fatty acids were less than 4 per cent of the total fatty acids. The content of total non-saponifiable material was less than 0.2 per cent. When menhaden oil was substituted isocalorically for corn oil in the diet of two patients (one with hyperlipemia and the other with hypercholesteremia), serum levels of cholesterol, phospholipids, and triglycerides remained depressed. The fatty acid patterns of all three ester groups of the serum-lipids were considerably affected by the composition of the two fats. The effects on serum lipid levels were unrelated to the essential fatty acid and sterol contents of the fats.

THE LICENTIATE (India)

Vol. 8, November, 1958

*A survey of nutritional status of a group of industrial workers. B. Banerji and K. S. Basu.—p. 247.

*Does honey in infant feeding cause allergy? E. L. Strem and A. V. Stoesser.—p. 252.

Vol. 8, December, 1958

*Proteins in health and disease. P. Goswami.—p. 273.

Nutritional Status of Industrial Workers. This is a report on a study carried out in a factory in India over a three-year period. There was significant improvement in nutritional status, in the sickness experience, in the accident experience, and in height-weight ratio as a result of an industrial health program and an accident prevention program. It was concluded that neither sickness nor accident experience is related to nutritional status, but height-weight ratio bears a distinct and significant relationship to nutritional grade.

Honey in Infant Feeding. The purpose of this study was to determine whether the use of a processed honey in infant feeding will cause allergic manifestations. Of the fifty-two infants studied, twenty-four had a family background of allergy and twenty-eight had none. Three infants developed an allergic condition which may have been due to the ingested honey, but this could not be confirmed by cutaneous tests made with honey and pollens.

Proteins in Health and Disease. This article discusses many aspects of protein metabolism including biochemical and physical properties. Factors that influence the normal concentration of the protein in the blood, and factors that are responsible for protein disequilibrium in pathologic states are discussed. Also, the total serum protein and its fractionations are considered in specific disease states.

NUTRITION

Vol. 12, Winter, 1958

*Psychiatry in dietetics. A. B. Sclare.—p. 149.

*Dietetics in Germany. Training and opportunities. A. Lowdon, *tr. from Der Beruf der Diätassistentin.*—p. 162.

Public health nutrition in Tasmania and the Northern Territory. J. O'Hara-May.—p. 166.

*Metabolic studies of obese students on a stepwise weight reduction regimen. A. M. Brown.—p. 171.

Psychiatry and Dietetics. The common ground between psychiatry and dietetics is described in this paper, and reference has been made to the psychologic and symbolic aspects of eating. Recent work with reference to the role of vitamin deprivation and other biochemical disturbances in the etiology of certain neuropsychiatric syndromes is discussed and the value of dietary treatment is described.

Dietetics in Germany. This article describes the course of training for a dietitian in Germany and some of the job opportunities available. After ten years in elementary and secondary schools, there is a one-year period at a Domestic Science College, one year of practical hotel or hospital training, and two years in a training school for dietitians. Opportunities include dietitian caterer, dietetic adviser, nutrition adviser, and dietetic instructress in training schools.

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Step-Wise Weight Reduction. This article by a dietitian in London, formerly a graduate assistant in the School of Nutrition, Cornell University, describes the metabolic studies of obese students carried out at Cornell. The 1956 study was planned to determine whether the losses of calcium, phosphorus, and nitrogen during reducing periods could be minimized on a step-wise reducing scheme, that is, one in which periods of reduction were separated by periods of weight maintenance. No evidence was produced to suggest that a step-wise reducing regimen eliminates the physiologic shortcomings of the straight reducing program.

NUTRITION REVIEWS

Vol. 17, January, 1959

*Nutritional aspects of egg yolk. O. A. Schjeide and M. R. Urist.—p. 3.

Nutritional Aspects of Egg Yolk. This review discusses a study in which the two major compartments of egg yolk, the yolk granules and the fluid in which the granules are suspended, were examined. It is pointed out that the use of whole egg or egg yolk as "reference proteins" for determination of relative nutritional values of various plant and animal proteins constitutes a questionable procedure. The yolk is composed of at least twice as much lipid (protein bound) as protein and there are several distinctly different proteins. It would seem that a re-examination of the growth-supporting properties of egg yolk in which each macromolecular entity is tested separately and in various combinations with other yolk and egg white constituents is needed.

SCIENCE

Vol. 129, January 9, 1959

*Zinc-65 in foods and people. R. W. Perkins and J. M. Nielsen.—p. 95.

Vol. 129, January 23, 1959

*Influence of religion on the spread of citrus. The religious practices of the Jews helped effect the introduction of citrus to Mediterranean lands. E. Isaac.—p. 179.

Hemoglobin patterns in American Indians. W. S. Pollitzer, A. I. Chernoff, L. L. Horton, and M. Froehlich.—p. 216.

Vol. 129, January 30, 1959

*Vitamin B_{12} in sewage sludge. S. S. Rao, C. A. Sastry, H. N. Bhagavan, and B. R. Baliga.—p. 276.

Zinc-65 in Foods and People. Disposal of trace amounts of zinc-65 is made in the Columbia River via Hanford reactor effluent water. The use of river water for irrigation permits the concentration of this radioisotope in farm produce and its eventual deposition in man. The zinc-65 in irrigation water, in farm produce, and in individuals using these materials has been measured and is presented here. It is felt that the amounts of zinc-65 observed in this study in no way constitute a hazard.

Religion and the Spread of Citrus. This article, of an historical nature, discusses the influence of religion on the spread of citrus. The early history of citrus in the Mediterranean cannot be explained in terms of economic or social needs, but depended on the religious beliefs and observances of a people. It is highly reasonable to assume that the Jews, to whom the citron was such a vital part of religious observance, were the prime agents in spreading the fruit, and as a by-product, in making it acceptable to the non-Jewish population.

SURGERY, GYNECOLOGY AND OBSTETRICS

Vol. 108, January, 1959

*The removal of excessive potassium and ammonium from bank blood prior to transfusion. D. C. Schechter, T. F. Nealon, Jr., and J. H. Gibbon, Jr.—p. 1.

Potassium and Ammonium in Bank Blood. Stored bank blood undergoes certain biochemical alterations with the passage of time. The most significant of these, for the recipient, are the generally increased concentrations of ammonium and potassium. This may mean potential danger to certain types of patients, i.e., those with severe liver disease. A simple method for removing excessive amounts of potassium and ammonium consists of passing the blood across a cation-exchange resin consistently reducing the concentrations of plasma potassium and blood ammonium to, or below, normal levels. This reduction is accompanied by a small increase in the plasma sodium concentration.

ADULT LEADERSHIP

Vol. 7, January, 1959

*Cultural barriers to leadership. W. G. Dyer.—p. 189.

Cultural Barriers to Leadership. In discussing blocks to democratic attitudes and to equality of group action, the author points out several resistant factors so that they might be more intelligently understood and handled. Different groups, sections of the country, and social strata exhibit these resistant characteristics in differing degrees. Thus the barriers to democratic action and the method of handling such barriers will change depending on locality. He mentions five barriers: sex roles and the supposed "natural" superiority of the male; prestige and the demands people make because of it; formal status and the barrier between levels of status; formal leadership norm and the need for a leader with understanding and insight; and prejudice, one of the most prevalent of the resistant forces to democratic action. Among suggestions for overcoming these barriers are: examining our own behavior and the attitudes motivating it, discussing barriers openly and frankly in a group, giving warm acceptance to the person who holds such attitudes, realizing the results of rejection, and adopting the idea of trying out new methods with a new perspective.

AMERICAN RESTAURANT

Vol. 43, January, 1959

*A yardstick for restaurant operations. E. W. Kallio.—p. 66.

*Budget your way to success. H. W. Espersen.—p. 82.

Yardstick for Restaurant Operations. Restaurant statistics compiled for the purpose of providing an industry yardstick are presented in this article. One serious obstacle to such a standard has been the fact that restaurateurs record operating data in so many different ways. The great variety of types of restaurants further complicates the picture. This particular study covers only commercial, table-service restaurants, broken down into two categories: those that sell food only and those that sell both food and beverages. The restaurants are grouped on the basis of location according to neighborhood, i.e., center city (in the business area) and suburban. The restaurants in neighborhoods showed the best results because of low rent, and the best distribution of business over all three meals.

Budgeting. This article is aimed at all management in every line of business where income and costs are involved. The average restaurant operator has been slow to adopt budgeting, a valuable form of control. It may be because he visualizes budgeting as a process by which only big business can forecast results; this is not true. A budget is a carefully prepared statement of probable income and expense based on experience and performance after giving weight to current economic trends. It should be as detailed as possible and its purpose is not to determine how close one can guess the volume of sales, but to act as a constant barometer to indicate (a) how well the operating results conform to projections and (b) specific areas that may be falling behind. In this way, investigations can be made and corrective action taken.

DINER DRIVE-IN

Vol. 18, January, 1959

*Setting standards for your business. D. E. Lundberg.—p. 24.

Setting Standards. Setting standards makes life easier for both employee and manager, and studies have shown that the best managers are those who are themselves striving toward goals and can motivate employees to aim for them, too. Standard-setting is part of leadership. Standards of production and service are goals. Trying to set realistic standards and getting an organization to live up to them is an everlasting job.

HOSPITAL PROGRESS

Vol. 40, January, 1959

*Hospitals share diet manual: cooperation solves problems. Sister M. Cephas.—p. 86.

Sharing a Diet Manual. Cooperation solved a problem once again when doctors at two hospitals in Iowa asked for a revised diet manual. The staff

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dietitians from the two hospitals decided to pool their efforts on the project. They held well organized meetings; various diets were assigned to each member of the group, who in turn looked up the most recent materials available on that particular diet. At the next meeting, the entire group received a copy of the results of this research, and the diet was discussed. After the suggestions and corrections were made, the diet was approved for the manual.

HOSPITALS

Vol. 33, January 16, 1959

Symposium on progressive patient care—p. 42.

*Dry milk for everyday foods. M. Little.—p. 89.

Vol. 33, February 1, 1959

*Dried fruit can whet appetites. I. L. Dolan.—p. 69.

Dry Milk. New foods on the market can help in serving dependable, high quality foods to patients. Among these newer foods is nonfat dry milk. Through increased production and highly standardized methods, nonfat dry milk is now readily available in all parts of the country. It has many advantages, including the comparatively small storage space required, room temperature storage, and ease of handling. Manufacturers have also made the product easily dispersible in liquids. Nonfat dry milk may be used in all foods where other forms of milk are used, and in slightly higher amounts. To improve nutritional values, it may be used in some foods where other forms of milk are not ordinarily found.

Dried Fruit to Whet Appetites. The intense flavor of dried fruits doesn't just happen. The fine flavor dominates because the fruit is harvested when it is fully ripe. Prunes, for example, are never picked. They are harvested only after they fall to the ground. Not only flavor but fruit sugar is fully developed during ripening. Fruit sugar increases as much as 30 per cent. The best method of cooking dried fruits is quick and simple. Rinse fruit, cover with water, and cook until tender. Most dried fruit should be sweetened during the last few minutes of cooking. As a breakfast fruit, as a meat accompaniment, as an ingredient in sandwich fillings, salads, stuffings, pies, cakes, cookies, cookie bars, and frozen desserts, dried fruits give interesting and palatable variety.

INPLANT FOOD MANAGEMENT

Vol. 6, January, 1959

*Dress them right.—p. 40.

Uniforms. This article relays the feelings of a representative list of directors and managers of industrial food services on problems concerned with uniforms. Included were company-managed operations ranging from a single unit that serves about 575 employees to multiple units serving many thousands. All of the answers, from six hundred operations, stressed the importance of fresh, attractive, well fitted uniforms for the morale of the workers, the pleasure of patrons, and the effect on sales of food.

INSTITUTIONS

Vol. 44, January, 1959

*A short course in kitchen design. J. Laschober.—p. 12.

*How to select best buys in fresh produce.—p. 14.

*Operator tells how standardized recipe system works. A. M. Macfarlane.—p. 28.

*Tips on large-scale cafeteria operation. A. Upton.—p. 53.

*Reviewing the communications program. J. A. Ritchey.—p. 62.

*List 18 principles for purchasing fresh fruit.—p. 91.

*Storage of fruits.—p. 97.

*Flair for fresh fruits.—p. 99.

Selecting canned fruits.—p. 102.

*Guide to table appointments. A. M. Macfarlane.—p. 124.

Vol. 44, February, 1959

*The ups and downs of vertical transportation.—p. 6.

Short course in kitchen design. Part II. Ventilation. J. Laschober.—p. 52.

*Set up good storage practices. A. M. Macfarlane.—p. 94.

*Safe rules for refrigerated food storage.—p. 98.

Kitchen Design. To make most effective use of today's modern equipment and layout ideas, the operator must understand the language and principles of the professional kitchen engineer. The very advent of this new equipment brings with it a recurring problem, i.e., how to make the most efficient use of efficient machines. Many of the advantages of a conveyor, a modern range, or a new ventilating system can be nullified by inefficient placement, poor maintenance, or failure to understand the basic principles on which it operates. And, too frequently, the operator chooses the wrong equipment to suit his purposes. The successful operator must be able to think in the terms of the engineer. While he cannot hope to have at his fingertips all the experience and information of the food facilities design specialist, he must, nonetheless, understand the underlying principles of kitchen layout and equipment specification. This series of articles is designed to translate the language of the engineer into practical, everyday operating terms.

Best Buys in Fresh Produce. Knowing how to buy fresh produce intelligently can be one of the most valuable skills a purchasing agent, dietitian, or manager of an institution can acquire. Roughly 18 per cent of the food dollar goes for fruits and vegetables and the major share in the average institution is spent on the fresh. Most purchasing is done over the phone and there never seems to be any time to find the "why" behind prices, quality, and so on. In choosing a dealer a buyer should first look for honesty and reliability, of course. But, beyond that, he should inspect the dealer's plant and see that he has the proper facilities for maintaining good service to his customers. The buyer should know the characteristics of all the varieties of fruits and vegetables that normally come into his market each year, as well as grades and sizing. He should set up specifications for each item, thus placing all dealers on an even competitive basis. The dealer maintains his end of the bargain by providing fresh produce punctually; the buyer must meet his part by paying his bills promptly.

Standardized Recipes. Wide-awake operators have long recognized that the standardized recipe is one of the most important and effective of all tools. Standardized recipes bring to the worker a knowledge of the best procedures. They assist him in putting his knowledge into action, so that he is continually able to produce high quality food according to the predetermined standards set by management. Such a tool means close cooperation between management and employee. Some of the advantages of standardizing are: the patron is assured high quality food day after day; the employee benefits by having the guesswork taken out of his job; management benefits by having established a definite and constant cost as well as a standard of quality; workers can be more quickly trained in proper cooking procedures; and, with standards of quality established, any deviation can be quickly spotted.

Tips on Cafeteria Operation. This article stresses the need for each employee to be trained for different stations: salads, sandwiches, steam table, coffee, desserts, and so on. They thus gain a greater feeling of poise and confidence and a better understanding of the people working with them. All employees should be trained in courtesy and willingness to help each other. Even arranging employee meal schedules is important: all dishwashing personnel should have a meal period before the rush, since their busy time is toward the end of the rush. On the other hand, the cooking staff and food preparation groups should be on service until after the meal period. Punctuality and reliability are necessary among the employees in a cafeteria operation. By preparing food as close to the time of sales as possible, a cafeteria can be known for its excellence of food. The use of steam kettles and steam chests is invaluable in this respect. Job classification is not a good practice, ordinarily, in the cafeteria operation, since the "peak" periods in the day necessitate full cooperation of all the employees to serve, sometimes handling more than one station.

Communications Program. As an operation grows more complex, passing and getting "the word"—and doing it accurately—is a problem that increasingly plagues management. In this article, the author considers the matter of selecting the proper communication technique and measuring its effectiveness.

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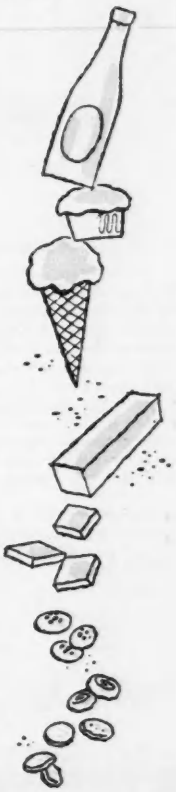
HIGHLY PURIFIED CAROTENE YELLOW. Beta Carotene Roche is carotene in the most highly purified form available commercially. It is free of other carotenoids, whose variable color values and lower vitamin A potencies often cause trouble in food processing. Food manufacturers use beta carotene Roche for *true* natural yellow color without any tinge of green or red. Beta Carotene Roche is a better product to make good food products better.

Pure beta carotene 'Roche' crystals The Peak of Purity

SAFE AND SURE. Beta carotene is one of nature's own coloring agents. *It belongs in foods.* Even though pure beta carotene has always been considered harmless, Hoffmann-La Roche as usual took nothing for granted. During the past three years, our laboratories conducted extensive acute and chronic toxicity tests which clearly demonstrated the safety of Roche beta carotene when it was administered in massive doses to test subjects over long periods.



BETA CAROTENE ROCHE represents the peak of purity and uniformity. Derived from citral obtained from lemon grass oil or other natural products, and produced by a new scientific process, the Roche product is identical chemically and biologically (as provitamin A) with beta carotene as nature makes it.

BETA CAROTENE ROCHE is not a coal tar color! It does not contain coal tar nor is it in any way derived from coal tar! No coal tar constituent is introduced into the molecule during the Roche process.

Since beta carotene Roche gives safe yellow color with vitamin A activity (inherently included), it is preferred by margarine manufacturers and other food processors. At this time, there are no forms of the product available for use by consumers. If you wish answers to your questions about this safe food color, we suggest that you write for a free copy of "The Story of Nature's Yellow — Beta Carotene." For food processors — technical information and samples gladly sent on request.

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not hours!

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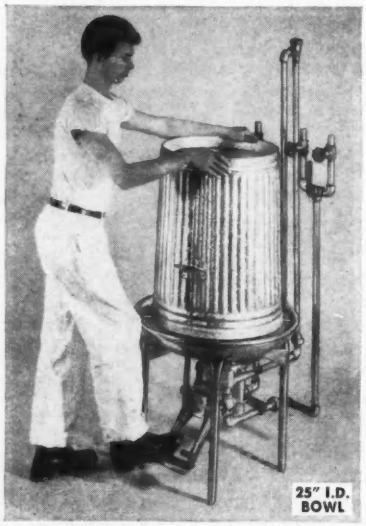

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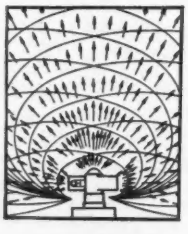
- - wherever Refuse Cans — Mixing Kettles — Stock Pots — Milk Cans — Insulated Carriers or any Large Containers need cleaning and sterilizing — It does the job Faster, more thoroughly and with the greatest emphasis on Sanitation — Pays for itself quickly.
It permits the use of Hot Water, Cold Water and Steam — in any combination or sequence—Operates with either High or Low boiler pressures — Easily Installed with standard fittings.



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this article on the art of purchasing fresh fruit are eighteen cardinal principles for the buyer to follow, some of which are: to buy by specification and to buy by grade, since the grading system protects both the buyer and the seller. Knowing varieties, specific qualities, and uses will assure the buyer of getting the product best suited for the use intended. Bargains should be carefully evaluated to be sure they are due to oversupply, not damage. The buyer should try to visit the markets periodically, for in no other way can he so well select fruits and judge the price on the basis of quality. The article goes on to review the types of fruit and their seasons, place of origin or abundance, how they are sold, by measure or weight, and indications of quality.

Storage of Fruits. Since many fruits when growing thrive on coolness and moisture, the same carries over when they are held in refrigerated storage. The majority require low temperature and high humidity to preserve their fresh texture, tenderness, flavor, attractiveness, and nutritive content. The ideal temperature for most fresh fruits for short-time refrigerated storage would be 35° to 45°F. Actual range is usually 40° to 45°F. with satisfactory results. Humidity of 85 to 95 per cent conserves moisture content of fruits in refrigerated storage and prevents wilting, shriveling, or toughening. Since quantity food operators usually buy fresh fruits daily, bi-weekly, or tri-weekly, controlling the humidity does not present a problem. For some fruits held in refrigeration longer than three or four days, ice or a damp cloth placed over the fruit will supply the moisture necessary.

Flair for Fresh Fruits. The author of this article stresses the unlimited possibilities that fresh fruits offer for adding a flair to food service. Their colors, textures, and shapes lend themselves to endless eye-catching arrangements, many of the most interesting of which are easy to prepare. Frequently a special way of preparing a fruit cup or of serving a fruit dessert can become a profitable trademark. Not all "flair" ideas are based on eye appeal, of course. Sometimes an imaginative and surprising combination of flavors can be the trick that sets a fruit dish apart. But, whatever the treatment, only fruits of the highest quality should be used.

Pretty, Practical Tables. Appearance and practicality are both important factors in purchasing flatware, dishes, glassware, and service trays. Not only must initial and replacement costs be considered, but the operator must choose items that complement the design theme of his establishment. To aid him, this feature gives basic data on quantities to buy, the care involved, and how to recognize quality in these items. In most cases, it is advisable for the operator to choose items from open stock. It is important that every food service executive understand the basic principles underlying the construction and performance of these items.

Vertical Transportation. Moving materials up and down in institutions is fully as important as the vertical transfer of people. In fact, a good over-all vertical transportation system often means the difference between efficient and inefficient operation throughout the entire building. The use of automation in this field is becoming increasingly widespread. This article stresses the importance of abiding by the following precautions: (a) The prevention and reduction of elevator accidents can only be achieved at the price of eternal vigilance by the owner, elevator companies, and enforcing authorities. (b) Equipment should comply with existing regulations at the time of its installation and should be used within the limits of its design and capacity. (c) Where changing conditions, accident experience, and other failures indicate an elevator is inadequate for the purpose, it should be modernized or altered to meet new service requirements. (d) Operators should be trained in the safety requirements of their job. (e) Vertical transportation units should be serviced by qualified men well versed in preventive maintenance.

Good Storage Practices. The storeroom is the central depot that serves every department. In it supplies are stored until such a time as specific items are needed and then moved into daily or short-term supply. To maintain control of these stored supplies—for after all they represent an investment and are the equivalent of cash—they should be issued by requisition only, and the storeroom kept under lock and key when the person in charge is not present. Probably no department bespeaks the efficiency of the operation —or lack of it—as much as the storeroom. This department should be the epitome of good housekeeping and be as well arranged and operated as a supermarket, even though on a smaller scale. Controlled buying and efficient storage procedures and facilities will save the food operator many dollars.

Rules for Refrigerated Food Storage. Here are general and specific precautions for refrigerated storage of fresh food. For best results, the following precautions should be taken: (a) Arrange the food to allow free circulation of air, as cold air is necessary to prevent spoilage. (b) Hang raw meats away from the wall. (c) Keep the newer purchases of an item in the back and the older purchases in the front, so that the older ones will be used first. (d) See that cooked and prepared foods are covered with plastic film wrap or protective paper to prevent loss of moisture as well as drippings. (e) Promptly discard foods that have passed their usefulness. This gives added space, prevents overcrowding, increases the circulation of air, and keeps the storage area in proper condition. (f) Keep the refrigerated

You can make news with *deep-fried potatoes*

Vary your menus, insure extra side-order sales. Use these 5 profitable ideas for potatoes deep-fried in Heavy-Duty **mfb**

1 BRABANT POTATOES

Deep fry in Heavy-Duty MFB ½-inch cubes of raw potatoes at 375° for 3 to 4 minutes. Or dice frozen French fries and deep fry till brown. Garnish with chopped parsley and pimiento.

2 POTATO PUFFS

To each quart of cold, seasoned mashed potatoes (fresh or instant), add 2 beaten eggs. Shape into balls and roll in corn flakes. Deep fry in Heavy-Duty MFB at 375° till browned.

3 FROZEN FRENCH FRIED POTATOES

Deep fry at 375° for about two minutes. 200 portions of frozen French fries (about 50 lbs.) absorb only 2½ to 3 lbs. of shortening. For quality's sake . . . be sure it's Heavy-Duty MFB.

4 SOUFFLÈ POTATOES

Cut peeled potatoes in long, narrow, even slices ⅛-inch thick. Soak in ice water 5 minutes. Dry thoroughly. Deep fry in Heavy-Duty MFB at 275° for 5 minutes, turning once. Do not brown or let slices stick together. Drain. Refry (within two hours) at 400° till potatoes puff and brown.

5 DEEP-FRIED BAKED POTATOES

Bake potatoes till about done. Just before serving, finish cooking by deep frying in Heavy-Duty MFB at 350° (about 5 minutes). Deep frying brings out appetizing flavors (the skin is particularly delicious) . . . improves appearance . . . insures potato will be piping hot when served.

Quick Tips from Shortening Headquarters for Deep Frying Them Better

- Be sure your thermostat is accurate. Use 8 to 1 load ratio—8 pounds of Heavy-Duty MFB for *each* pound of potatoes.
- High frying temperature does the trick—with Heavy-Duty MFB, the shortening with the high smoke point.
- For the all-use deep fryer, all-vegetable Heavy-Duty MFB insures no transfer of flavors.

Shortening is no sideline with us . . . that's why Heavy-Duty MFB fries and fries and FRIES

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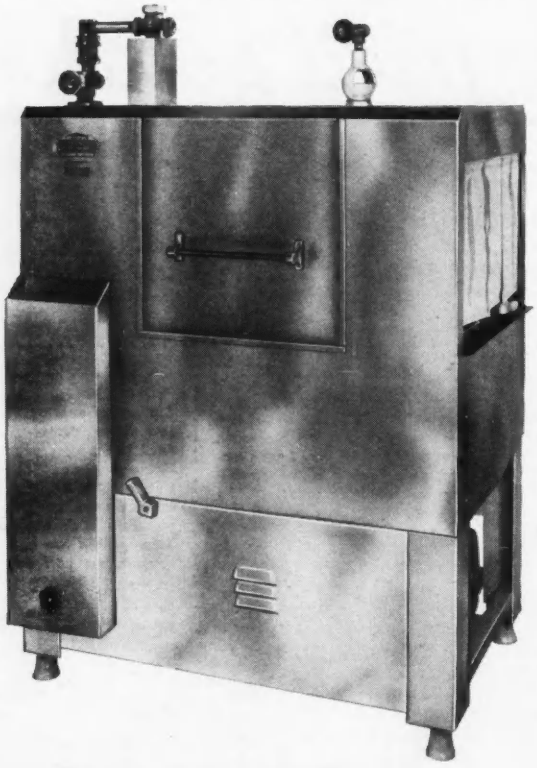
If you serve up to 400 persons per meal...



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BLAKESLEE Model EC4 features:

All interior parts—constructed of stainless steel or ni-resist so as to be impervious to new highly alkaline and new chlorinated detergents.

Pump and motor mounted below tank—so heat from gas burners or heat radiated from tank goes up and not into pump and motor bearings to dry up pump and motor lubricants.

Large inspection and cleanout doors—for easy inspection and cleaning of machine.

Very important—during operation, approximately one-half of final rinse water is automatically diverted to sewer to eliminate excessive dilution of wash solution and over-heating of wash water.

Visit the BLAKESLEE booths—C44 to C54—at the National Restaurant Show where you'll see the complete line of BLAKESLEE dishwashers and other kitchen machines.

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Chicago 50, Illinois

area spotlessly clean. (g) Defrost before ¼ in. frost gathers, as frost slows the cooling process. (h) Open the doors only when necessary as the outside air raises the temperature.

THE MODERN HOSPITAL

Vol. 92, January, 1959

*A supervisor supervises people, not jobs. L. Nadler.—p. 61.

*Dessert puts appeal in meals for the aged. I. L. Dolan.—p. 106.

Supervising People, Not Jobs. This is the fifth article in a series on training supervisors. The author firmly believes that supervision is over people, not jobs. As there is a reason for all behavior, the supervisor must try to understand other people's behavior as well as his own. Behavior is usually based on needs. These may be thought of as physical and social, with the necessity for satisfying both. The problem is finding the kind of recognition that will satisfy each individual.

Desserts for the Aged. Something to look forward to is important for the thousands of aged persons in rest homes and chronic wards of general hospitals. Ways to meet this need are stressed in this article. In an often impersonal atmosphere, mealtimes assume extra importance. They should, therefore, provide a break in the day-in-day-out monotony, rather than adding to it. Interesting, creative desserts can do much to pep up geriatric diets, while providing the vital element of anticipation.

PERSONNEL JOURNAL

Vol. 37, January, 1959

*How personal can a personnel policy be? J. W. Seybold.—p. 285.

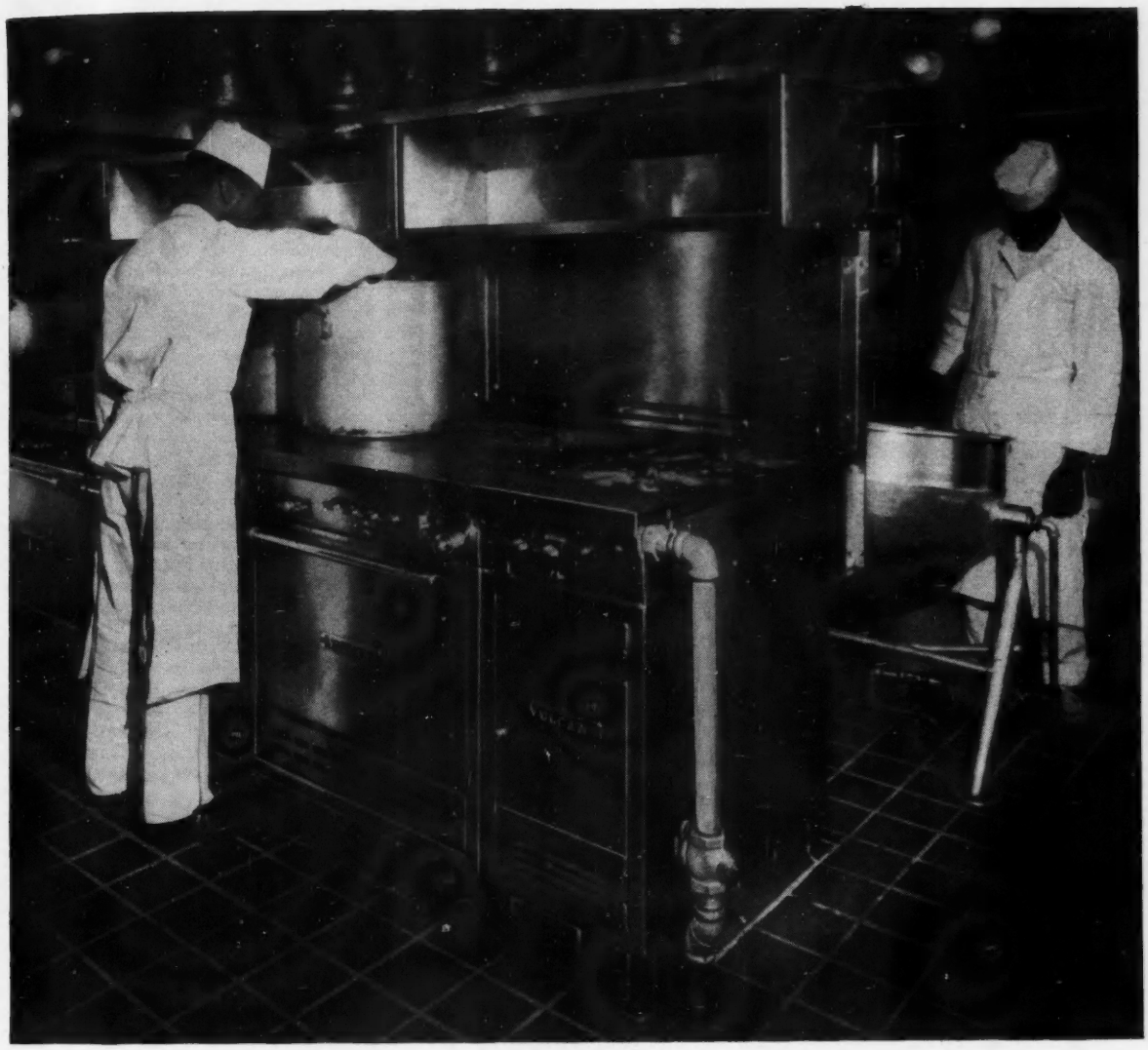
*Morale and the training program. D. L. Tubbs.—p. 298.

Vol. 37, February, 1959

*This way to better conferences. W. M. Sattler.—p. 334.

How Personal Can a Personnel Policy Be? This feature is concerned with the enforcement of employee rules, regulations, and contract provisions. The author's belief is that a company with a "tough" policy—a company that never seems to yield an inch in the day-to-day administration of its labor agreement, even to the point of appearing to ignore the individual problems and needs of its employees—will be successful in achieving the objective of maintaining discipline and efficiency and winning loyalty. However, the author wonders whether it is possible to adopt a flexible, or liberal, or "loving" policy in these areas. Are consistency and predictability possible with a flexible policy? He suggests a number of points to consider in formulating a liberal policy, and believes that in the long run it would prove to have more advantages than the impersonal rigid policy.

Morale and Training Program. It should always be remembered that the trainee considers the training program to be a sample or preview of his future employment environment. If he



Chefs prepare food on modern Gas equipment in the kitchen of Roanoke Memorial Hospital

Enough fried chicken for 300 patients in 12 minutes . . . thanks to GAS

Modern stainless steel Gas equipment with automatic controls is the key to fast preparation of special and regular diet foods at Roanoke Memorial Hospital, Roanoke, Virginia.

Stainless steel pressure cookers and steam kettles can cook enough fried chicken in 12 minutes to serve 300 patients, after which chicken is browned in a Gas-fired deep fat fryer. Automatically controlled Vulcan Gas equipment—ranges, baking and warming ovens—speed nutritious, tasty food to patients and staff with no interruption in service for changeover to special diets.

For information on how Gas can help you modernize your food service, call your Gas Company's commercial specialist. He'll be glad to discuss with you the economies and outstanding results you get with Gas and modern Gas-fired equipment. *American Gas Association.*

is unhappy in the small scale operation, his outlook towards the future may be even more disheartening. The training program must be synchronized with the morale environment which will exist later. Even a good training program will lose its punch if there is a great let-down after it terminates. Obviously, company morale training is not a "one-shot" promotion.

Better Conferences. This article is limited to three points of view about conferences. These may be thought of as queries that prompt re-examining of the principles of conference leadership that may have been taken for granted. Each has a bearing on problem-solving, learning, and the personal satisfactions of group members. The three points are: (a) Should the leader in the informational-developmental conference fuse his "right" answers with those he seeks to elicit from the group? (b) Should the agenda and the pattern of the conference be known in advance only by the conference leader? (c) Is the conference leader discharging his responsibilities fully through occasional summaries, or by the questions he asks? Everyone has known conferences which were stimulating and valuable—and others which seemed only a waste of time. This author has several suggestions on improving leadership, which, after all, is necessary to a worthwhile conference.

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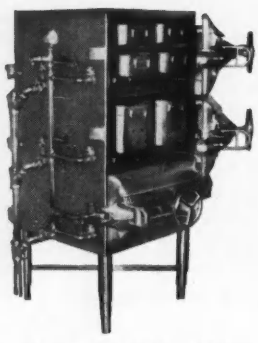
STEAM-CHEF
Retain Flavor, Vitamins and Color
. . . Save Money, Time and Labor!



3 compartment Steam-Chef—gas, electric or directly-connected to your steam supply.

Steam-cooked foods retain more vitamins, flavor and natural color than foods cooked any other way. And they cook faster, easier and at less cost! For *positive proof,* send for bulletins telling what users say.

There are many thousands of Cleveland Steamers in use today . . . in the United States and foreign countries too. Let us send you comprehensive lists of current installations.

So, for better cooking at less cost, *put steam to work in your kitchen!* And for better steaming, insist on the leaders . . . "STEAM-CHEF" and "Steamcraft". There's a size and style for *every* need.

A Few of Our Many Current Installations

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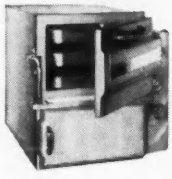
Winnipeg General Hospital • Dartmouth College
Rice Institute • Vassar College
Brown Palace Hotel • Cairo Hilton Hotel
Royal York Hotel • Chrysler Motors • General Electric
United Airlines • General Motors • Western Electric



"Steamcraft" is for smaller requirements, or for supplementing a Steam-Chef.

STEAM-CHEF
Steamcraft
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"HEADQUARTERS FOR STEAMCOOKERS"
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RESTAURANT MANAGEMENT

Vol. 84, January, 1959

*Maybe the customer *is* right! J. Damon.—p. 57.

*Cling peaches: gold from a can.—p. 62.

Maybe the Customer Is Right! This is the first in a series on customer complaints — what they are, what causes them, and what can be done about them. It is the nature of the restaurant business to get all kinds of complaints from all types of people. To dismiss these complaints as the whims of cranks or of people who are hard to please is unsound. Most complaints are sincere and justified. They can be eliminated through careful consideration of their causes and by the efficient cooperation of chef and management in working out remedies. Some of the most common complaints are: "service is too slow," "the waitress is impolite," "the food is cold," "the food is tasteless."

Cling Peaches. Low in cost, easy to use, and always "in season," canned peaches can make a simple dish or a whole meal a golden attraction. This feature is selling peaches in appetizers, entrées, and salads, not to mention dessert dishes. Tasty and eye-appealing, the fruit lends itself to an infinite number of imaginative uses with very little trouble. Cling peaches can be featured alone or in combination, and their texture, color, and taste will make a distinctive contribution to any meal.

VOLUME FEEDING MANAGEMENT

Vol. 12, January, 1959

*Trends and new ideas. A. C. Avery.—p. 18.
*How to determine the value of convenience products. P. J. Aldrich.—p. 20.
How to build a portion-control program.—p. 22.
Prepared bases: key to low-cost menu variety. E. Blair.—p. 24.
*Saving steps with conveyors. H. Post.—p 130.
*Controlling costs with scales.—p. 136.
Buyer's checklists:
Coffee makers.—p. 142.
Refrigerators, freezers.—p. 144.
Fryers, broilers, griddles.—p. 148.
Food mixers.—p. 152.
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*How to match cleaning compounds to your cleaning jobs.—p. 202.
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Buyer's checklists:
Ice machines.—p. 246.
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Mobile serving equipment.—p. 252.

Trends. The number of new food products developed recently seems astronomical. The biggest trend is to the semi-prepared or so-called convenience foods, but much remains to be done in working out their relative cost factors, labor saving, and comparative

Serve your meals WITH Shampaine ELECTRIC

Super-Mealcart. (Design Pat. Pending) (S-3010-MR Illustrated 20 Trays with Beverage Bar S-3010)

SUPER-MEALCART

Represents the latest advance in efficient portable food service equipment for centralized tray systems. The famous step-down feature (design pat. pend.) provides work surface for set-up and beverage dispensing from exclusive removable beverage bar (S-3010). Large drawers with generous clearance allow room for half-pint milk containers and full complement of dinnerware. Drawer depth in hot side permits clearance for coffee cups. Coffee is dispensed from beverage bar into pre-heated cups. Available in *mechanical refrigeration* and *cartridge type refrigeration* models.

MECHANICAL REFRIGERATION MODELS

Mechanical refrigeration with hold-over cooling capacity for a full hour *without* running compressor or blower. Will hold and retain 38° F. even in room temperature of 90° F.

S-3001-MR	(20 trays)
S-3002-MR	(24 trays)
S-3003-MR	(30 trays)

CARTRIDGE TYPE REFRIGERATION MODELS

(CARTRIDGES NOT INCLUDED)

S-3001-DP	(20 trays)
S-3002-DP	(24 trays)
S-3003-DP	(30 trays)

ONLY SHAMPAINE ELECTRIC SUPER-MEALCART HAS . . .

- **an unobstructed set-up area** *convenient* counter height, at 41″ for 20-meal cart, at 44″ for 24-meal cart. Accommodates large trays up to 15½″ x 20½″.
- **all stainless steel, double-walled, fully-insulated construction throughout.** 2½″ insulation between hot and cold compartment.
- **compact heated drawers** accommodating three 9″ dinner plates, *plus* three 5½″ plates, *plus* three coffee or tea cups
- **an oven compartment** with internal, waterproof installed, stainless steel, sheathed sealed heaters. Accessible *without* dismantling or turning cart upside down. Provides uniform temperatures (185° F.) throughout compartment.
- **fully-insulated, recessed and double-walled doors** of oven compartment close tightly against recessed frame. Full-length *stainless steel* piano hinges on doors.
- **rugged, compact tray slides** that can be removed in easy to clean *sections*, providing clearance between tray slides of 3¾″ for ½ pint "carton-type" milk container.
- **models in 20, 24 and *30-meal size,** for both *mechanical* and *eutectic* refrigeration (Dole cartridge), and with or without beverage dispensers.

*at additional set-up charge.

S-3010 Beverage Dispenser
(Cart Not Included)

REMOVABLE BEVERAGE BAR S-3010

Removable, easy to load, easy to clean beverage bar **with *separate*, individually insulated wells permitting dispensing of boiling water from one and cooled drinks from the other. Bar can be used in combination with utility truck for "between-meal" coffee or fruit juice servings to patients or can be set up in Doctors Lounge.**

Electric, three well—each well individually thermostatically controlled, stainless steel.

SHAMPAINE ELECTRIC COMPANY, INC.
50 Webster Ave. • New Rochelle, N. Y.

THE COMPLETE FOOD CONVEYOR LINE
a SHAMPAINE industry

acceptability. The Armed Services, for example, have developed many new products, but most of them are unproved from the standpoint of cost. Generally, there is considerable indecision when a feeding operation is asked to change from its regular raw food material to one that is partially or completely prepared. The number of new food products will continue to increase, but comparative information must be developed to guide us.

Evaluating Convenience Products. Convenience foods cannot be ignored if you expect to survive in the highly competitive food business. When considering the use of any convenience food, these questions are asked: Would production control be improved? Would portion control be easier to maintain? Would quality be more predictable and dependable? Would more menu variety be possible without increased production costs? Could time spent on receiving, storage, and distribution of foods be decreased? Could less capital be tied up in inventory?

Saving Steps with Conveyors. The right type and size of mechanical conveyor in the right place can save time and labor and improve your service. The main objective here is to point out the advantages of using conveyors, giving the various kinds available and a few pointers on matching the conveyor to the job. There are many ways to use conveyors profitably. The application of conveyor systems to some areas is difficult, requiring careful consideration of the over-all traffic and workflow pattern.

Controlling Costs with Scales. Involved in cost control is the control of every step of operation, from receiving, through preparation to customer service. Scales are an important part of such a control system, i.e., weighing incoming deliveries, weighing out proper proportions, and weighing portions. It results in a number of systems. Only two considerations should enter the picture: the work flow pattern and the type and quantity of food to be weighed and controlled at each point. There are many types and sizes of scales to meet varying needs.

Match Cleaning Compounds to the Job. The effectiveness of methods and cleaning products can be evaluated by asking questions covering the type of cleaning problems involved and the methods in which the product should be used. For instance, does the problem call for: a powdered, completely soluble cleaner or a liquid cleaner? Is the detergent or sanitizer to be used by hand or in a machine? The best test of the cleaning ability of a detergent or germicide is the actual use of the product. To be effective, a cleaner must penetrate the soil and lift it from the surface, it must keep such soil in solution so that it will not be redeposited. It must rinse easily.

Table Settings Can Upgrade Any Menu. This article points to the extremely important knack of setting an attractive table. From the time a customer sits down to order until he gets up to leave, he spends most of his time looking at the table and the food. Thus an important part of a charming atmosphere is in table settings. It goes without saying that the table area and silverware should be scrupulously clean. The dishware should be in keeping with the menu, the decor of the room, and the type of operation. The relationship of dish size to portion size is an important consideration in the choosing of tableware. Learning to use all types of china, glass, plastic, paper, or metal effectively will prove most profitable.

The Right Floor. Resilient flooring materials have many advantages. There is a resilient flooring material for every purpose and budget, and an almost endless variety of decor possibilities is offered. They provide dramatic and colorful appearance, comfort underfoot, cleaning ease, and simple installation. Because of these and other characteristics, they are used throughout the volume food service industry. Before choosing a specific type, the operator should consult his architect or flooring contractor. There are eight main types of resilient floors: asphalt tile, rubber tile, linoleum, linoleum tile, cork tile, inlaid vinyl plastic tile and sheet, and vinyl-asbestos tile. Each has certain advantages and certain limitations. There is a type for almost every purpose. A table evaluates ten resilient floor materials.

For FAST toasting—

to avoid food service delays...

there's no substitute for

Savory

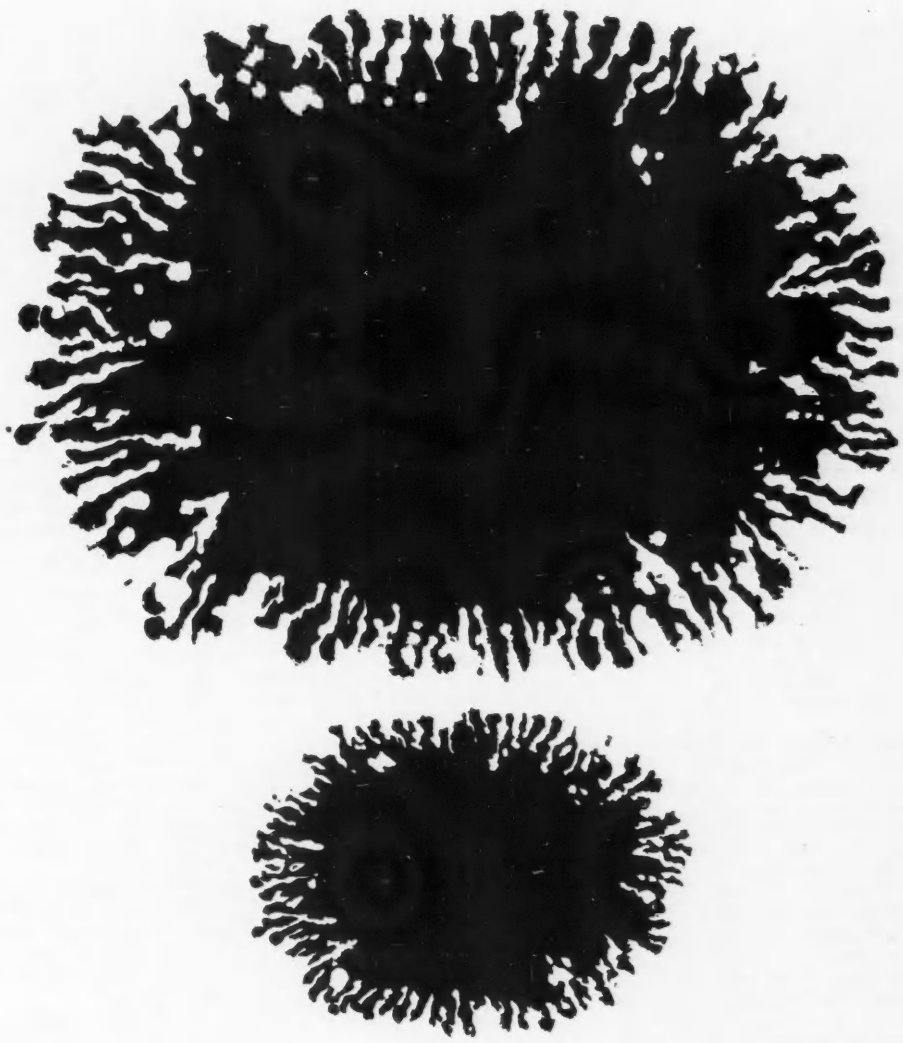
Savory's automatic toasting operation makes food service faster, easier and more economical because there's no wait for loading—no delay in toast delivery.

In hospitals, schools and institutions where rigid meal schedules must be maintained, a Savory toaster *keeps pace with demand* by providing 6 to 12 slices of fresh hot toast every minute.

—and Savory toasters are sturdy and easy to clean, too. Made of gleaming stainless steel, they'll serve you for years.

Ask your Kitchen Supply Dealer for details, or write:

Savory EQUIPMENT, INCORPORATED
120 Pacific St., Newark, N. J.



A recent clinical study* clearly established that Gerber Strained Egg Yolks are less allergenic than home-cooked egg yolks. An exclusive "time/temperature" sterilization process (45 minutes at 240° F) markedly reduces the allergenic effect of the egg yolks, according to the investigators. This special process also insures a safe, uniform product which is much more palatable than sieved, hard-cooked yolks.

This is but one of many continuing research projects conducted by Gerber in the interest of better nutrition for infants.

Gerber® Baby Foods

FREMONT, MICHIGAN

*TODD, RICHARD H., M. D. ET AL. THE JOURNAL OF ALLERGY 28:436-448, 1957

Recommendations for USDA Research. At a meeting of the USDA's *Food Distribution Research and Marketing Advisory Committee* late in January, a number of research projects were recommended, including: studies to determine the effects of such supplementary treatments as antibiotics, radiation, and inert gas packaging on food shelf-life and consumer acceptance; surveys to determine the market potential of new or improved vegetable and fruit products, such as seven-fold, super-concentrated grape juice, fortified apple juice, dehydrofrozen apple slices, and frozen French fried sweet potatoes; development of new methods and instruments for measuring quality of commodities and improvement of grade standards; and surveys to learn the extent to which household food consumption varies with the seasons. Included on this committee is A.D.A. member Patricia A. Beezley, Manager, Pennant Cafeteria, Topeka, Kansas.

A second USDA Advisory Committee—this one concerned with *Vegetable Research and Marketing*—has also made recommendations of interest to dietitians and nutritionists. It ranks fundamental study of the chemical constituents of vegetables as the top utilization research need. Especially needed is knowledge of constituents important to processing quality, the chemical changes involved with loss of quality and nutritive value, and the chemistry of vegetable enzyme systems. Also recommended was a study of the technology of vegetable processing, aimed at developing more precooked foods, food concentrates, snack items, and dehydrated vegetable products. More information should also be sought on the composition and nutritive value of vegetables in different forms and how these are affected by handling and preparation at home.

Service Award for VA Dietitian. In January, Gertrude A. Holt, Chief, Dietetic Service, VA Hospital, Montgomery, Alabama, received a pin in recognition of thirty years' service with the Veterans Administration. She was one of 105 employees honored for long service.

Ohio Survey of Mental Hospitals. Governor Michael V. DiSalle of Ohio has appointed a committee to study the mental hospitals in that state. Headed by Jay W. Collins, Director, Euclid-Glenville Hospital, Cleveland, the committee will be composed of twelve dietitians, nurses, and maintenance men. The five dietitians who will help in surveying the state's twenty-five mental hospitals are: Rosemary Brown, Toledo Hospital; Mary DeMarco, Cleveland City Hospital; Mary N. Letherman, Mount Carmel Hospital, Columbus; Mary McKelvey, Christ Hospital, Cincinnati; and Elizabeth Perry, Stouffer Corporation, Cleveland.

The following foods, according to the USDA, will be plentiful during April:

Protein foods

Chickens—broilers and fryers
Eggs
Milk and dairy products
Peanuts and peanut products

Other foods

Cabbage
Honey
Lard
Peas, canned
Potatoes
Walnuts

Frozen Foods for April. Special suggestions for menu-right uses of frozen foods during April come from the National Association of Frozen Food Packers. They include:

FROZEN FRUITS AND DESSERTS
(available in 30-lb. cans and smaller containers)

Blueberries. Use for color contrast with other fruits in fruit cups and salads; also in muffins.

Peaches. Peach custard pie is different and especially good made with frozen peaches.

Strawberries. Use with gelatin desserts, as well as for shortcakes.

Frozen fruit pies. Can increase dessert offerings without increasing labor costs, and can be baked as served. Available in several sizes.

FROZEN VEGETABLES
(available in 2½-lb. containers for small-batch cooking; and 50-lb. containers for large operations)

Broccoli, spears and chopped. Serve spears with Hollandaise or cheese sauce. Chopped form may be used for timbales with a slight onion flavor.

Peas and carrots. Their colors dress up a Swiss steak or ground beef plate.

Summer Educational Opportunities. Announcements of a number of courses and workshops to be offered this summer which may be of special interest to members have reached the JOURNAL office. If further information is desired about any of these courses, inquiries should be directed to the college or university offering the course.

CORNELL UNIVERSITY
College of Home Economics

Quantity Food Purchasing: July 6 to 25; 2 hr. credit. Planned for school lunch managers, homemaking teachers supervising school lunch programs, college food service managers, hospital dietitians, and others responsible for buying food. Topics will include: current marketing processes and trends, selection, and storage of various classes of foods.

Institution Organization and Administration: July 27 to August 15; 2 hr. credit. Analysis and interpretation of major administrative problems in operating a food service organization. Application of business management, budgetary and production control principles to quantity meal preparation and service.

School of Hotel and Restaurant Administration

Preliminary Planning and Programming: July 6 to 18. Fundamental principles and factors required to plan and program any project of mass feeding facilities. Work to be done by an owner or his consultant before the architect is commissioned will be studied, as well as the establishment of a proper merchandising objective, the kind of service and menu, and decisions on location, equipment, and over-all physical layout.

Food Service Equipment Layout: July 20 to August 1. A lecture and drafting room course that will involve determination of type, capacity, quantity, and quality of food service equipment, as well as research pertinent to the over-all project—such as architectural, structural, and mechanical features of the building, and the applicable sanitary codes.

Food Facilities Engineering: August 3 to 15. A second lecture and drafting room course will deal with the fundamentals of layouts, working drawings, specifications, and estimations.

IOWA STATE COLLEGE

Workshop on Diet and Disease: June 29–July 11; 3 quarter credits. Planned for dietitians, college teachers, and teachers of student nurses. Topics to be covered include: physiologic bases for dietary adaptations used in treating disease; sodium-restricted diets; dietary considerations in atherosclerosis; congenital defects of metabolism related to nutrition; and practical aspects of preparing therapeutic diets.

MICHIGAN STATE UNIVERSITY

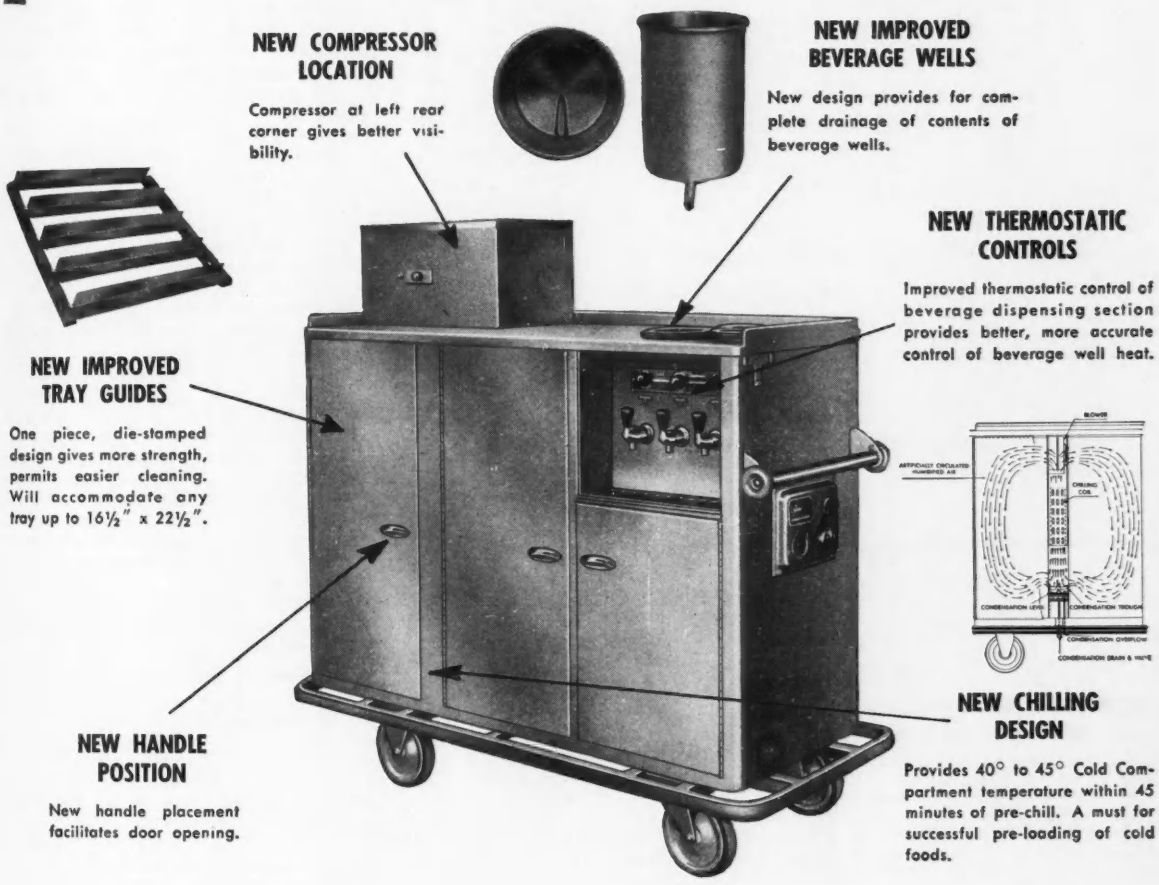
Workshop on Communications and Management Application: August 2 to 14; graduate credit available. A course has been designed to help dietitians, nutritionists, school and university food service managers, and educators to understand better the basic concepts of communication and their application to management in terms of research, cost reduction through improved quality control, and appraisal of management development.

UNIVERSITY OF MINNESOTA

School Lunch Management: July 21 to

NEW LOOK TO Ideal

IDEAL'S improved design is a result of additional research and development to make the IDEAL Mealmobile better than ever and more adaptable to all hospital centralized food service systems.



NEW COMPRESSOR LOCATION

Compressor at left rear corner gives better visibility.

NEW IMPROVED BEVERAGE WELLS

New design provides for complete drainage of contents of beverage wells.

NEW THERMOSTATIC CONTROLS

Improved thermostatic control of beverage dispensing section provides better, more accurate control of beverage well heat.

NEW IMPROVED TRAY GUIDES

One piece, die-stamped design gives more strength, permits easier cleaning. Will accommodate any tray up to 16½" x 22½".

NEW HANDLE POSITION

New handle placement facilitates door opening.

NEW CHILLING DESIGN

Provides 40° to 45° Cold Compartment temperature within 45 minutes of pre-chill. A must for successful pre-loading of cold foods.

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adds the tang of salt...plus true food flavor

At last! A *liquid* salt substitute that's double-acting: adds the snap and zest of salt . . . and *boosts* the true flavor of all foods. Jaded appetites perk up . . . foods taste better . . . menus take on new life. And Liquid Saltrol is easily dispensed and measured — no grains and guesswork! Highly stable, Liquid Saltrol is perfect for table use, baking, cooking and canning. Chief ingredients are Potassium Chloride and Ammonium Chloride. Sodium content averages 3 mgs. in 100 grams or less than 1 mg. per oz. Packed 12 — 4 oz. bottles per case.

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- Fortified with Vitamin C
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This attractive booklet is a guide to better food and food service in the small institution. Based on normal nutritional requirements for adults, the menu patterns, sample suppers, and pointers on meal planning have their place in any household. Practical ideas for making the work of the manager easier and pleasanter include a weekly marketing guide, hints for economy in buying and storage, and suggestions for serving.

This is a project of the Diet Therapy Section of The American Dietetic Association.

Single copy 50¢

Five copies $2.00
Ten copies 3.75

Order from:

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620 North Michigan Avenue
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August 22; 3 credits. Discussion of problems of the home economist responsible for quantity food service, will include: menu planning, food production, food purchasing, equipment purchasing, personnel management, and organization of special banquets.

The University of Minnesota has announced that it is now offering master's and doctoral degrees in home economics, in the following fields of emphasis: foods, household equipment, home management and family relationships, nutrition, related art, textiles and clothing, and home economics education. The master's degree in home economics education may be earned through attendance at summer sessions.

UNIVERSITY OF WISCONSIN

Forum on "Surveying Modern Facets of Foods and Nutrition": June 29–July 3; no college credit. Recent information on some aspects of health, management, and quality as related to foods and nutrition will be presented. The place of foods and nutrition in modern education will also be considered.

Institutes and Conferences. On March 20, *Wayne State University* College of Medicine, Detroit, sponsored its Fifth Annual Nutrition Conference. The program was on the general subject of "Inorganic Factors in Nutrition." Guest speakers included: Dr. G. K. Davis, University of Florida; Dr. W. B. Schwartz, Tufts Medical School; Dr. C. V. Moore, Washington University; and Dr. D. Mark Hegsted, Harvard School of Public Health.

The *South Carolina Nutrition Committee* sponsored The Governor's Conference on Nutrition on March 17 in Columbia. The conference was held to: promote further interest in nutrition, present current information, and honor R. R. Williams, Ph.D., for his contributions to the welfare of mankind and his particular interest in South Carolina's nutritional problems. Speakers included: James Hundley, M.D., Chief of Geographic Studies, National Institute of Health, Bethesda, Maryland; E. Neige Todhunter, Ph.D., Dean School of Home Economics, University of Alabama, University; Vince Moseley, M.D., Professor of Medicine, South Carolina Medical College, Charleston; Charles Glen King, Ph.D., D. Sc., Scientific Director, Nutrition Foundation, Inc., New York City; and Robert R. Williams, Ph.D., Chairman, Committee on Cereals, Food and Nutrition Board, National Research Council, Washington, D. C.

April 21 to 23 are the dates of an Institute for Improved Dietary Administration to be sponsored jointly by the *Connecticut Dietetic* and *Hospital Associations* at the Continuing Education Center, University of Connecticut, Storrs. Dietitians and food managers from all New England hos-

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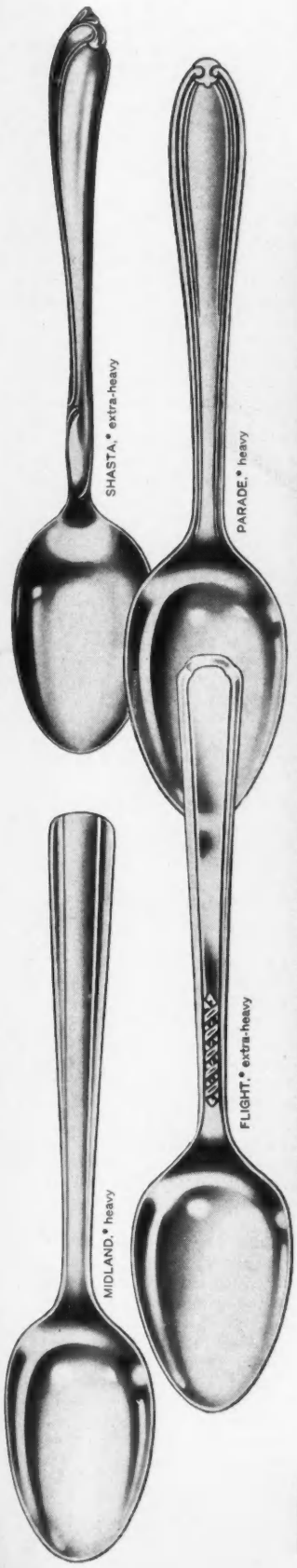

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pitals are cordially invited to attend.

"Nutrition and Rehabilitation" will be the subject of an institute offered by the *New York State Nutrition Council* at the Rehabilitation Hospital, West Haverstraw, on April 29 and 30. Dr. Herbert Pollack, New York University Post-Graduate Medical School, will speak on "Nutrition and Rehabilitation," and Dr. Seymour Bluestone, Director of the hospital, will discuss "The Hospital Approach to the Problem." A panel, including A.D.A. members A. June Bricker of the Metropolitan Life Insurance Company and Elizabeth Henry of the Rochester (N.Y.) Visiting Nurse Association, will develop "The Community Approach to the Problem."

Omicron Nu will hold its biennial conclave at the University of Wisconsin, June 18 to 20, which is the week-end immediately preceding the convention of the American Home Economics Association in Milwaukee. Detailed information may be obtained in the spring issue of the *Omicron Nu Magazine*.

An *American Hospital Association Institute in Dietary Department Administration* will be held in Pittsburgh, May 4 to 8. Subject matter will be directed toward administration of the department of dietetics, including communication, supervision, and delegation of duties as well as interdepartmental relationships and financial management. Field trips are also being planned as part of the program. There will be speakers, informal group discussions, and audience participation.

Restaurant Management Meetings. On March 16 to 18, a Restaurant Administrators' Conference was held at *Michigan State University*. The program included:

"Evaluating Managerial Results in the Food Service Operation"—Douglas C. Keister, School of Hotel, Restaurant and Institutional Management, Michigan State University

"Consumer Panel Report on Dining out Habits and Attitudes"—Albert L. Ladanyi, Standard Brands, Inc., Detroit

"Communications — A Concept for Management"—William A. Peterson, School of Hotel, Restaurant and Institutional Management, Michigan State University

"Purchasing, Receiving, and Storage Techniques for Increased Profit"—Robert F. Herron, Management, Food Store, Michigan State University

* * * * *

At the *Ohio State University*, the School of Home Economics and College of Commerce, in conjunction with the Ohio Restaurant Association, sponsored the 15th Annual Restaurant Management Conference on March 17. Features of the program were:

"Changes in Customer's Food Habits"—J. B. Brown, Ph.D., Chairman, Department of Physiological Chemistry and Pharmacology, Ohio State University

"Buying for Quality and Profit"—W. A. Gould, Ph.D., and staff, Department of Horticulture, Ohio State University

"Salads Demonstration for Profit"—Ruth Dinkel, Manager, Chintz and Buckeye Rooms, F. & R. Lazarus, Columbus

"Sixty Profitable Merchandising Ideas"—a group participation presentation led by LeVelle Wood, Director, Division of Institution Management, Ohio State University, and Robert E. Smith, Jr., Distributive Education Services, Ohio Department of Education.

Homemaker Services Discussed at Conference. On February 10 and 11, a national conference on homemaker services to encourage the development of programs to help families maintain themselves at home when illness or other major crisis strikes was held in Chicago. The meeting was sponsored by twenty-six national voluntary agencies and eight units of the U.S. Department of Health, Education, and Welfare. Some four hundred persons attended.

Preparatory study groups had met in New York, Chicago, San Francisco, Cleveland, Raleigh, Denver, and Trenton, to discuss ways in which home-

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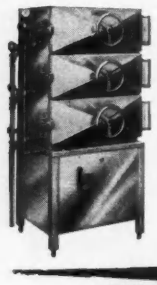
From modern, functional styling to top operating efficiency and performance, Market Forge Steam Cookers are the choice of leading kitchen equipment specifiers. When you need to consider versatility, economy and practicability, choose Market Forge Steam Cookers. There's a model for every installation requirement — and each one incorporates *all* the exclusive Market Forge features.



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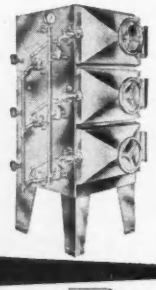
Features wide compartments. As many as 3 compartments are available—all accommodating the easily accessible standard cafeteria pans.



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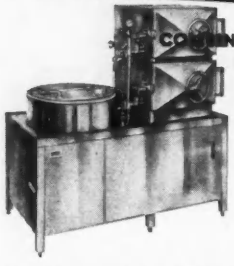

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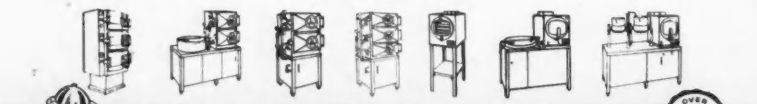

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maker service can be planned, organized, and made available to those elements of the population which need it. About half of the conference participants had been involved in such pre-conference studies.

Results of the pre-conference studies have been published as two reports: *Homemaker Services in the United States, 1958—A Nationwide Study* by William H. Stewart, Maryland Y. Pennell, and Lucille M. Smith, which presents statistical data and facts accumulated; and *Homemaker Services in the United States, 1958—Twelve Descriptive Statements*, in which are described twelve different types of services now in operation in this country. (Both publications may be ordered from the Government Printing Office at a cost of 55 cents each; they are, respectively: Public Health Service Publications No. 644 and 645.)

Services, known as "home helps," have been extensively used in Europe, but have been slow to develop in this country. At present, some kind of service is offered by only about 150 agencies here. In times of trouble to families with children, to expectant and new mothers, to the chronically ill and disabled, and to the aging, such services have proved most helpful. Experience has shown that they can be less expensive to individuals and communities than foster care of children in times of family crisis or institutionalization for the aged. Homemaker services keep families together when illness or death strikes, permit the elderly to live at home, and allow the release of some chronically ill from total hospital care.

The conference participants included homemakers, educators, industrialists, lawyers, doctors, social workers, nurses, and representatives from the fields of insurance and labor. They considered five problem areas: (a) What distinctive needs and purposes can be met by homemaker services? (b) Who needs such services? (c) How should they be planned and organized? (d) What is good administration in homemaker services? (e) How can community understanding and support of homemaker services be developed?

A comprehensive report of this conference has been published by Social Legislation Information Service, Inc., 1346 Connecticut Avenue, N. W., Washington 6, D. C., and may be ordered for 25 cents a copy.

Joint FAO/WHO Report. The scope of the World Health Organization's interests and activities exceeds that of any previous international health organization and includes programs relating to a wide variety of public health questions. Reports of expert committees are of basic importance to WHO. While not necessarily expressing the views of the Organization, they are taken into consideration in developing policies and programs. The new report, *Joint FAO/WHO Expert Committee on Nutrition—Fifth Report* (WHO Technical Report Series No. 149), contains the collective views of the Joint FAO/WHO Expert Committee on Nutrition, which met in Rome in October 1957. This fifth report covers the following topics among others: the determination of calorie and protein requirements; the study of food consumption; supplementary feeding; food technology; food additives; protein malnutrition; endemic goitre; other deficiency diseases; diet and atherosclerosis; education in nutrition; and the nutrition of mothers and children.

Sanitation Standards for Refrigeration Equipment. A recent two-day meeting of manufacturers of commercial reach-in and walk-in refrigerators and freezers was held at the National Sanitation Foundation, School of Public Health, University of Michigan, Ann Arbor. Ten manufacturers' representatives and eight public health workers met in a joint effort to work out standards for their field on a national basis. Manufacturers are already starting to make changes so that their refrigerators will meet these National Sanitation Foundation standards which should be in effect in about a year.

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The one dinnerware that gives you all these advantages:
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Whirling at 14,500 rpm, stainless steel blades reduce ingredients to a homogeneous mass in seconds. Whether you want to reconstitute milk products or process food for tube feedings—prepare gelatins or purees or blend pharmaceuticals—just load the gallon-size Waring Blendor, push a button and get marvelous results every time.

Every day, more and more grinding, chopping, dispersing and liquefying jobs are being done in the dietetic field by the CB-3 Waring Blendor. For all its versatility, this efficient appliance requires only a 9-inch square counterspace. The rugged all-metal base has a two-tone baked crackle finish. The container is stainless steel with easy-pour handle, clamp-on cover and sealing gasket; stainless steel blades are removable for cleaning. Lifetime lubricated 1.5 hp heavy-duty motor operates on 115 volts, 60 cycles, single phase. Push-button speed selectors for 14,500—12,000—9,000 rpm.

Whatever your blending problem, call on Waring engineers to help you find a practical answer.

NOW AVAILABLE SEPARATELY
—37½ oz. stainless steel container that withstands rough handling. For standard Waring Blendor.

MAIL NOW FOR FAST COOPERATION

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☐ I want counsel on a blending problem.

Please send full details about ☐ Gallon-Size Blendor CB-3.

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History of Army Dietitians. The history of the Army Medical Specialist Corps is now being prepared at the Army Medical Service Historical Unit in Washington, D.C. This volume will cover the period from 1917 to 1947 for dietitians, physical and occupational therapists in the Medical Department of the U.S. Army and the period from 1947 to the present, for the history of the Corps. The editor and project director is Harriet S. Lee, Chief of the Corps from 1954 to 1958.

All possible reference material, including military documents of all descriptions, personal letters, pictures, and records of particular professional significance, is needed both to assist in the writing of the history and to substantiate facts. Individuals having in their possession material that may be of historical interest are urged to forward such material to the Army Medical Service Historical Unit, Attn: Special Projects Branch, Walter Reed Army Medical Center, Washington 12, D.C. Such documents will be returned after duplication or filing in the Historical Unit, if desired.

Nutrition in Japan. In a twenty-eight-page booklet, the Ministry of Health and Welfare of Japan has published a comprehensive report of the work of its Nutrition Section since 1946. Included are data on: daily nutrient intake per capita from 1946 through 1957; nutrient intake in 1957 according to occupation; nutritional requirements for the Japanese; intake according to food groups, from 1949 through 1957; average heights and weights from 1947 through 1957; heights and weights by occupation in 1957; and physical symptoms of nutritional inadequacies from 1949 through 1957, together with figures on symptom rates according to occupation in 1957. Information is also given on: nutrition guidance programs; the annual Nutrition Improvement Movement; mass feeding projects; the progress of enrichment, as yet essentially voluntary; training facilities and national examinations for nutritionists; research programs in progress, especially those of the National Institute of Nutrition; and nutrition activities of private organizations. A copy of this report may be borrowed from the A.D.A. by members.

Spring Watermelons. The spring watermelon crop is increasing in importance, according to the USDA. First melons, grown in South Florida, appeared on the markets last month. In April and May, shipments by rail and truck will increase as melons ripen in Central Florida, and by June, melons will be on the market from North Florida, South Georgia, Texas, Arizona, and California. The spring crop, with favorable weather conditions, is nearly half as large as the summer crop which reaches a peak in late June or July and then tapers off. Early melons generally bring premium prices, perhaps three times as much as melons at peak season.

Potato Processing. Processing took one of every six bags of potatoes grown during 1957, according to USDA reports. Potato chips and shoestring potatoes made up about 42 per cent of the processed potatoes in 1957 and accounted for one out of every thirteen bags produced by farmers. This was an increase of 17 per cent over 1956.

Also, in 1957, more potatoes were dehydrated, canned, used in canned mixtures such as hash, stew, or soup, and more were used in frozen products other than French fries. Though frozen French fries are popular, fewer potatoes were processed this way in 1957 than in 1956.

A decrease of about a third occurred in the use of potatoes for starch and flour in 1957.

Army Personnel Announcements. Mary P. Lowery has been appointed First Lieutenant in the Army Medical Specialist Corps and assigned to active duty.

Ellen C. Miller has been promoted from the rank of Captain to Major.

Major Dorothy F. Jones, of the Regular Army, has been relieved from active duty.

The following reserve officers have been relieved from active duty: Captain Christine Galarneau, Captain Daisy C. Lowery, and First Lieutenant Ruth M. Robinson.

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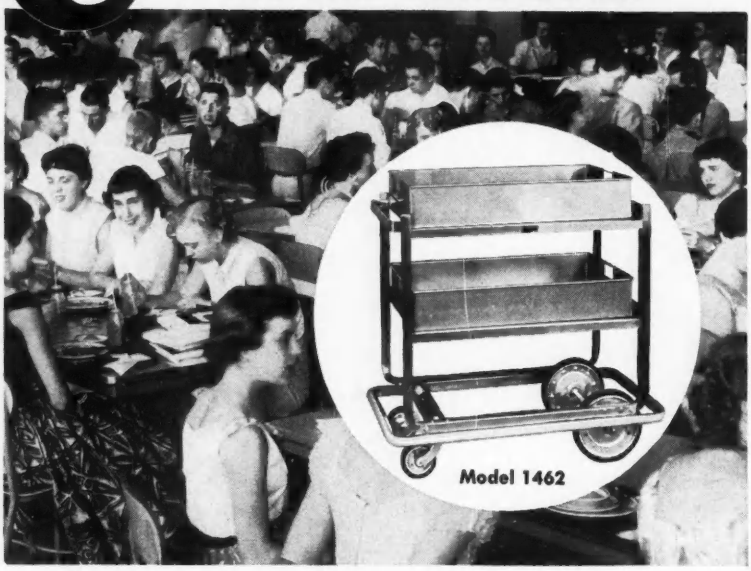
EXTRA HEAVY DUTY

DISH TRUCKS



built to the specifications of the Chicago Board of Education . . .

. . . to handle easily, roll smoothly even when overloaded with dishes, silverware, refuse.
. . . to withstand the constant battering and abuse encountered in large school and college dining rooms and cafeterias.
. . . to simplify cleaning and meet rigid health standards for cleanliness.
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The J & J Model 1462 Heavy Duty Dish Truck is ruggedly constructed with 14 gauge polished stainless steel shelves, securely welded to sturdy, highly polished, continuous stainless angle uprights. The shelves are reinforced by stainless angle, welded to the underside of each long shelf edge. It can be furnished with angle bumpers as shown or with a continuous bumper in an encircling stainless steel channel frame.

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Heavy Duty Dish Truck

- 14 gauge stainless steel shelves 21" x 32"
- Overall length 39½"
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Meat...

major source of top quality protein in the American diet

Calculations from latest U. S. Government data* reveal that meat exceeds all other food groups in supplying protein to the American diet.

	Total protein available for consumption
Meat	27.6%
Dairy products, excluding butter	25.3%
Flour and cereal products	19.6%
Poultry and fish	5.9%
All other foods	21.6%

These figures mean that Americans may well depend on meat as their major source of protein for day-to-day nutrition. In addition to the significant amounts of top quality protein, all meats—including beef, veal, pork, and lamb—provide the gamut of B vitamins and necessary minerals such as iron, potassium, and phosphorus.

In our country meat is always available for its valuable contribution to the fulfillment of protein needs—whether in health or in disease. Thus, it is probable that because of the vast availability of meat and because of America's liking for meat, we have been called "the best fed nation in the world."

*Agriculture Handbook No. 62, U. S. Department of Agriculture, 1957 (Sept.) p. 33.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

American Meat Institute
Main Office, Chicago...Members Throughout the United States

News of State Associations

Connecticut Dietetic Association. The spring meeting of the Connecticut Dietetic Association on February 10 was a workshop meeting devoted to developing an effective plan for recruiting dietitians. Lucille M. Refshauge, A.D.A. Past-President and Connecticut Career Guidance Chairman, sparked the workshop with a talk, "Add Glamour to Recruiting." The workshop portion of the program was directed by R. Bruce Kirk, Ph.D., A.D.A. Continuing Education Services Director. The A.D.A. film, "View from the Mountain," was shown.

New Jersey Dietetic Association. A course for dietary assistants is being conducted by the Vocational Education Department of the Paterson Public Schools, in cooperation with the Passaic County Association of Hospital Administrators and the New Jersey Dietetic Association. The course will include six months of evening class room instruction plus hospital on-the-job training.

Five members of the New Jersey Dietetic Association are also serving on the committee which has planned a two-day sanitation institute, March 11 and April 15, which is being presented in East Orange by the U.S. Public Health Service and the New Jersey Department of Health.

The *Middle Jersey Dietetic Association* met in Somerset on February 16 to hear a program on "Food Patterns of Various Ethnic Groups," which included discussions of Italian, Jewish, Southern, and Oriental food habits.

On February 16, the *Southern Jersey Dietetic Association*, at a meeting in Trenton, discussed the state project of preparing a diet manual.

Oklahoma Dietetic Association. February 27 and 28 were the dates of the Oklahoma Dietetic Association's annual meeting in Oklahoma City. The program highlighted a speech by Dr. Fredrick J. Stare, Harvard School of Public Health, on "Nutrition for You and Me." Other features on the program were:

"Kitchens of the Future"—Celeste K. Kemler, F.A.C.H.A., Administrator, Valley View Hospital, Ada

"Low-Fat Cookery"—Dr. and Mrs. James V. Warren, Galveston, Texas

"Will You Be Next?"—The Honorable James Demopolos, Traffic Division, The Municipal Court of Oklahoma City

R. Bruce Kirk, Ph.D., A.D.A. Continuing Education Services Director, attended the meeting as the national representative.

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Association Activities

Additional A.D.A. Committee Appointments. The following appointments to A.D.A. committees for 1958-59 have been made since publication of the listings in the February 1959 issue of the JOURNAL:

DISASTER FEEDING AND CIVIL DEFENSE PLANNING COMMITTEE

Chairman: Dorothy Bovee, American National Red Cross, Washington 13, D.C.

Mrs. Betty M. Brantley, 1708 Sixth St., Lake Charles, La.

Mrs. Julia B. Edwards, 803 Rittenhouse St., N.W., Washington 11, D.C.

Mrs. June Foss, 811 Westmoor Dr., Sioux Falls, S.D.

Mrs. Isabelle A. Hallahan, 16th District Public Schoo'ls, Elmont Road School, Elmont, N.Y.

Maj. Katherine E. Manchester, AMSC, Chief, Food Service Div., Brooke Army Medical Center, Ft. Sam Houston, Tex.

Mrs. Elsie Wells Russell, Director, Nutrition Div., Los Angeles City Health Dept., Los Angeles

Mrs. Vera Tharp, Ill. Dept. of Public Welfare, 405 State Office Bldg., Springfield

LIBRARY COMMITTEE

Chairman: Mrs. Nancylee Ray Gavazzi, VA Research Hospital, Chicago 11

you've heard the question...

why "white" bread?

why not whole wheat?

Sometimes... you hear the question—why "white" bread? Why not whole wheat or a specialty loaf containing darker fractions of the wheat berry?

There are reasons:

First, most people eat "white" bread, buns, biscuits and other products of enriched flour for the most compelling of all reasons. They like them. They prefer the appearance, flavor and texture of enriched products to whole wheat.

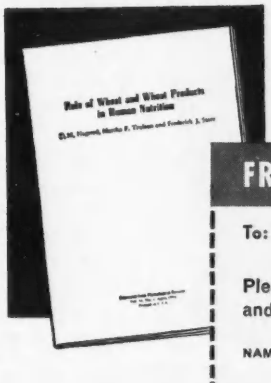
Authorities consider enriched and whole wheat products to be nutritional equivalents in planning good diet. Enrichment adds niacin, riboflavin, thiamine and iron to bread and flour without adding calories or cost. Enrichment is in large measure responsible for the generous supplies of these nutrients in national diet. Made most frequently with milk or milk solids, today's breadstuffs also contribute calcium as well. As for protein, the amino acid composition of all wheat products becomes complete and adequate when eaten—as they usually are—with proteins of animal origin.

Which leaves only calories. And if you check calorie tables, you will find breadstuffs among foods relatively low in caloric values, with insignificant differences between enriched and whole wheat. Other nutrients, for which Recommended Daily Dietary Allowances are specified by the National Research Council, are found in neither enriched nor whole wheat products—but come most easily from other foods in a balanced diet. Finally, no other one popular food contributes as much at so low a cost as breadstuffs.

If you still ask, But why "white" bread?... then consider further: The absence of roughage in enriched bread enables sensitive digestive tracts to handle it without needless irritation. Since roughage tends to speed the passage of food, there may be even more nourishment actually available in diet with enriched rather than whole wheat products.

But in normal diet—eat either enriched or whole wheat, or both for variety, as you prefer.

Citations in support of the above statements would fill several pages. If you still have questions of enriched versus whole wheat, may we send you a free copy of the authoritative booklet, "Role of Wheat and Wheat Products in Human Nutrition"? This reprint of an article from "Physiological Reviews" provides a broad over-view of the subject. Please write or use the coupon.



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Gloria Ruth Green, 20 E. Goethe St., Chicago 10
Mary Julia Kramper, 211 E. Delaware Pl., Chicago 11
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Ex-Officio: Dorothy J. Bates

JOINT COMMITTEE WITH MENTAL HOSPITAL SERVICE, THE AMERICAN PSYCHIATRIC ASSOCIATION—A.D.A.

Chairman: Mrs. Katherine E. Flack, Director, Nutrition Services, N.Y. State Dept. of Mental Hygiene, Albany
Mrs. Margaret C. Madden, Chief Dietitian, Philadelphia Psychiatric Hospital, Philadelphia 31
Consultant: LaVern Owens, Food Administrator, Calif. Dept. of Mental Hygiene, Sacramento

State Meetings. A.D.A. representatives will be attending the following meetings in April:

April 3–4—R. Bruce Kirk, Ph.D., *Wisconsin,* Milwaukee
April 9—Gladys Everson, Ph.D., *New Mexico,* Albuquerque
April 15–17—Edith A. Jones, *New York,* Rochester
April 15–17—LeVelle Wood, *Texas,* Houston
April 16–18—R. Bruce Kirk, Ph.D., *Ohio,* Cleveland
April 22–23 — Ercel S. Eppright, Ph.D., *Indiana,* Indianapolis
April 23–24—Geraldine M. Piper, *Pennsylvania,* Reading
April 23–24—Edith A. Jones, *Tennessee,* Gatlinburg
April 23–25—R. Bruce Kirk, Ph.D., *Virginia,* Richmond
April 24–25 — Ercel S. Eppright, Ph.D., *Alabama,* Birmingham

Doris Johnson, Ph.D., will attend as A.D.A. representative the Southeastern Hospital Conference of Dietitians, April 8 to 10, in Atlanta.

View from the Mountain. As of the end of February, fifty-seven prints of "View from the Moutnain" have been purchased by state and local dietetic associations, the Canadian Dietetic Association, and the Halifax Board of Education, Nova Scotia. Modern Talking Picture Service has reported that at the end of January the loan prints have been shown 499 times to a cumulative audience of approximately 21,000 people.

It is strongly urged that those associations which have not yet obtained a print plan to do so without delay so that it may be shown this spring to high school and college students, youth, and adult groups. Purchase is the only answer to freedom in scheduling, inasmuch as loan prints are virtually impossible to borrow at this time. Many of Modern Talking Picture Service's regional offices have reported that their bookings extend through May.

It is suggested that state officers periodically review the use which is being given your association-owned print. The film was designed and developed for recruiting purposes, and it is therefore recommended that potential dietitians and nutritionists, vocational counselors, and other outsiders be invited to showings that may be held for the benefit of the membership.

Council of National Organizations. A. June Bricker represented the Association at the Council of National Organizations on Children and Youth, February 20, New York City. The meeting was authorized by the National Committee of the 1960 White House Conference on Children and Youth. A.D.A. will be participating in the 1960 White House Conference through membership in the Council of National Organizations.

Health Careers. As a result of a conference of professional associations on recruitment in the health field, held October 2 and 3, 1958, in New York City, at which Grace E. McMahon attended as our representative, proposals have been presented to the Commission on Health Careers, National Health Council. Included were the following recommendations: arrangements for a follow-up conference this spring bringing in additional professional societies and health agencies; publication of a "health careers" newsletter; development of consultation services on fact finding and the

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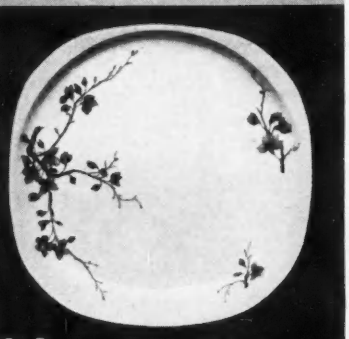

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compilation of statistical data; and the appointment of a special committee to develop an across-the-board "demonstration" or exhibit to publicize teamwork in health recruitment.

Women's Civil Defense Council. At the invitation of Mrs. Norton Pearl, Deputy Assistant Director, Women's Activities, Office of Civil and Defense Mobilization, the A.D.A. is cooperating with Regional Directors and has appointed representatives in Areas 5 and 7 in the states within their region to act as liaison agents: *Region 5*—Maj. Katharine E. Manchester, Texas; *Region 7*—Elsie W. Russell, California; Leila H. Roark, Arizona; Elsie L. Bakken, Washington; and Margie Timko Stein, Nevada.

In the Philippines. Lourdes R. Marquez-Sumabat, University of the Philippines, represented us at the inaugural ceremonies of the President of the Philippine Normal College, Dr. Emiliano C. Raminez, on February 7, 1959.

National League for Nursing. The National League for Nursing, Inc., invited a representative to each of its regional conferences on "The Use of the Practice Field in Nursing Education—an Experience in Planning Together." Attending were:

January 7–9, Miami Beach—Bertha Lugan, Clinic and Teaching Dietitian, Jackson Memorial Hospital, Miami
January 14–16, Oklahoma City—Onah Bayless, University of Oklahoma Medical Center, Oklahoma City
January 28–30, Louisville — Anita Thompson, Norton Memorial Infirmary, Louisville
January 28–30, Niagara, New York—A. Elizabeth Crozier, University of Rochester, Rochester

Mrs. Bayless commented that "continued emphasis is being placed on the increased demands made of the nursing profession. New nursing graduates often must assume administrative responsibilities far beyond their training and experience. The recent graduate may be expected to sense and consider a patient's emotional needs as well as his physical needs. In-service education can be used to bridge the gap between what nursing students learn and what graduate nurses are expected to know on the job." These comments are applicable to our profession, too.

Illinois Congress on Maternal and Infant Care. Ida Wides Klassen, Illinois Heart Association, represented A.D.A. at the Third Illinois Congress on Maternal and Infant Care, January 28 to 30, in Springfield. She reports: "Nutritionists and dietitians formally participated in nine sessions on the program. These included seven round tables. The nutritional and dietetic aspects of these subjects included discussions on the need for stressing what constitutes a good diet and how the patient can be helped to follow these suggestions. Working with women during pregnancy affords an excellent opportunity to inculcate some basic nutritional information at a time when she is especially interested and receptive. The lack of nutritional information among these patients emphasizes the need for a wider educational program for the general public. On this subject of nutrition education, the potential contribution of the nutritionist and dietitian in local communities was brought into sharp focus. To the nutritionist and dietitian attending this meeting, encouragement and satisfaction were gained from the increasing considerations given the field of nutrition, as evidenced by the questions, discussions, and desire for information, all of which are indicative of the basic need for and the important role played by the nutritionist and dietitian in the field of maternal and infant care."

American Association for Advancement of Science. Dorothy R. Jutton, Ph.D., was the Association's representative on the Council of the A.A.A.S. at meetings held in Washington, D.C., December 27 to 30, 1958. Dr. Jutton commented concerning the meetings: "The Conference on the Participation of Women in Science was sponsored by six national women's organizations. The present status of women scientists in the United States can be summarized as follows:

"(a) Ten per cent of all scientists in the U.S. are women; the speaker stated that with the great need for scientists today, the percentage of women should be increased.

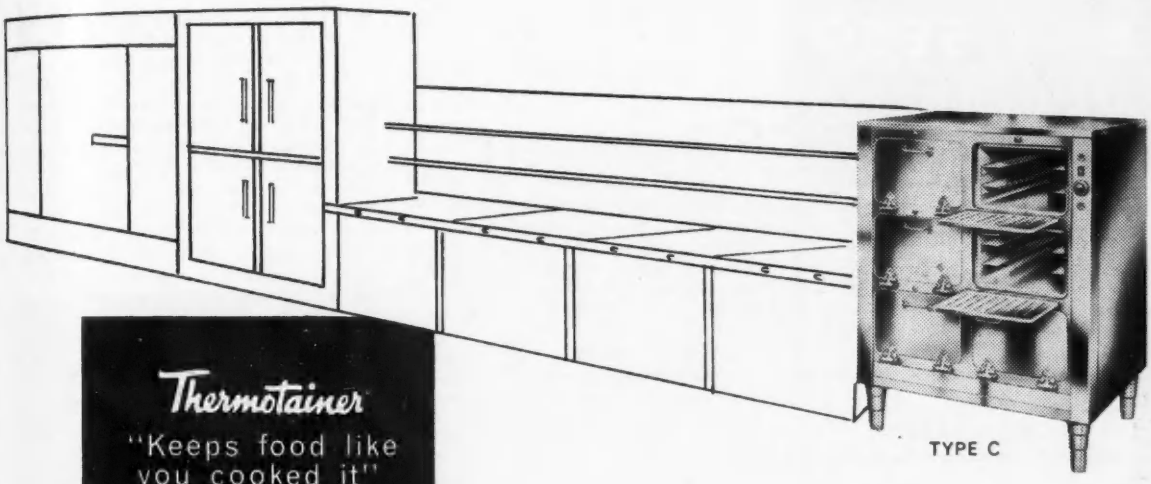
"(b) One per cent of all women workers are scientists; the ever-increasing number of women working in the U.S. does not include a sufficient proportion of scientists.

"(c) Four per cent or more of the women in the recently published *Who's Who of American Women* are scientists, indicating that women who have chosen science as a career have distinguished themselves.

"(d) Approximately three out of ten married women are employed outside of the home, and two-thirds of the 28 million working women are married.

"An important recommendation was made that it is the responsibility of every woman in a scientific profession to do as good a job as possible. For every paper she fails to publish and every new project she refuses to undertake, she is hindering the present and future cause of all women in scientific professions. It is also her responsibility to aid young women in her field."

There were specific implications in these discussions for dietitians and home economists. It was mentioned several times that women in the scientific aspects of home economics have better professional opportunities than in any other scientific fields. Dietitians should appreciate these opportunities and take advantage of them. The fact



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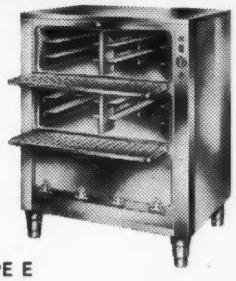
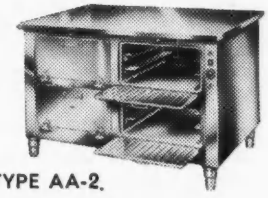


TYPE E

TYPE UJ-I



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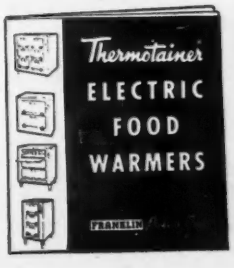

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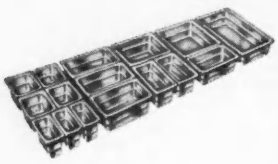

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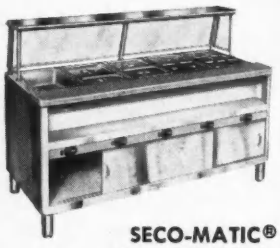

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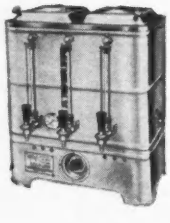

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that many aspects of the work are scientific and that women have unusually good opportunities should be publicized.

Obituaries

Eloise Hurd Halstead. The Tennessee Eastman Company, Kingsport, has reported to the A.D.A. office that its dietitian, Eloise Halstead, lost her life in an airline crash on January 8. Mrs. Halstead had been employed at Tennessee Eastman since 1948.

Henriette Pribnow. The A.D.A. office has been notified of the death of Henriette Pribnow in Cooperstown, New York, on January 28. Miss Pribnow had been on the staff at The Mary Imogene Bassett Hospital in Cooperstown for a number of years, having served as Teaching Dietitian in the Out-Patient Department and Director of the Dietary Department. She had also been Nutrition Instructor for the School of Nursing, Hartwick College, Cooperstown. Other positions she had held included: Director of the Dietary Departments at Presbyterian Hospital, Hahnemann Hospital, and Jewish Hospital in Philadelphia, and at Miami Valley Hospital, Dayton. She had been a member of the Association since 1932. She had retired in 1937.

News of Products and Services

The AMF Lowerator mobile cup and saucer dispenser, manufactured by *American Machine and Foundry Company*, features a seamless, welded, stainless steel cabinet. Cups are electrically heated with preheated air and thermostatically controlled up to 200°F. Capacity is 12 doz. cups and saucers. A tube-dispensing mechanism, with one simple knob-adjustment at the bottom, may not be accidentally moved after being set for the proper adjusting level. The thermostat knob is located inside the cabinet.

A new chocolate flavored drink that dissolves instantly in either hot or cold water is being introduced by *Continental Coffee Company*. Dutch process cocoas are used to assure a heavier body and richer flavor. The product is available in 24-oz. bags and boxes of 100 individual serving envelopes. Both packages are made of plastic coated aluminum foil and heat sealed to keep out moisture and prevent the powder from lumping.

L. L. Antle & Co., Inc., has introduced two new tenderizers. "Anco Brown 'n' Tender" is a combination of papaya base tenderizer and the flavor agent HVP. It tenderizes, flavors, and promotes browning. For meat tenderizing applications where a neutral flavor is required, "Anco 10" is being offered. Both products are packaged in 24-oz. decanter bottles featuring a "shaker head." The products are packed in gallons also.

Koch Refrigerators, Inc., has introduced its new series MY refrigerators, which may be integrated into a "Mix 'n' Match" lineup with all other cabinets in the Series M line. Featured are sliding glass doors with vertical fluorescent lighting provided between each pair of doors. Models are available in any combination of stainless steel and white or colored porcelain, in either front-opening or pass-through door arrangement, and in any combination of sliding and conventional hinged doors. Refrigeration may be remote or self-contained. Manufactured in two-, three-, or four-section widths, net capacities are: 45½, 70, and 92.6 cu. ft.

Two new infra-red food warmers with rigid stems for hanging from ceilings or soffets have been added to the CresCor line by *Crescent Metal Products, Inc.* They can be used to keep roasts, hams, poultry, fish, or French fries hot while awaiting service. Meals, steaks, chops, and other dishes readied at the open grill can be kept hot and displayed until picked up and served. Baked goods can also be held hot. A telescoping adjustment assures that the proper height of 14 to 16 in. above the food to be kept warm is maintained. Pull-down units and units which can be chain-hung or leg-mounted are also available. Both models are available in two hood styles, three designs, with a choice of three finishes.

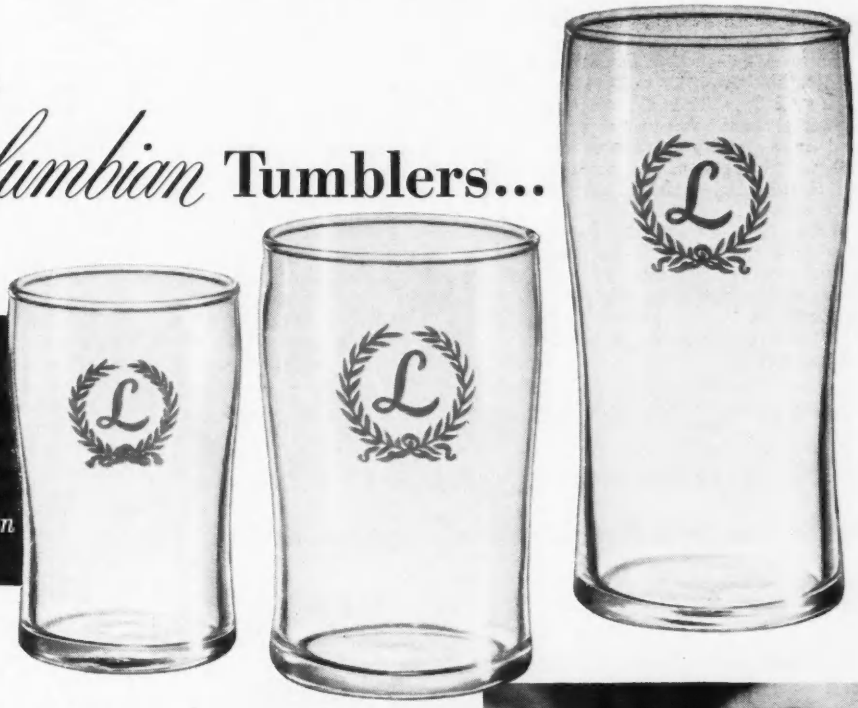
Sixty-five tested quantity recipes have been republished in a forty-page (8½ by 10) illustrated booklet by *Processed Apples Institute, Inc.* Ways to add menu variety with ready-to-use canned applesauce, apple slices, and apple juice are suggested in recipes for appetizers; breads; desserts; accompaniments for meat, poultry, or fish; relishes, salads; stuffings; or vegetable combinations. The ingredients, weight, measure or count, and total yield are given with the method of preparing. Each page is perforated for inclusion in individual recipe files.

A new line of heavy-duty, electric, table-top ranges has been introduced by *Toastmaster Division, McGraw-Edison Company.* In production are "All-Purpose," "Multi-Purpose," "Griddle Top," "Hot Plate," and "Hot Top" models. Each is 36 in. wide by 38 in. deep with a cooking top surface height of 36 in. All are available in gray enamel or stainless steel finishes.

Toastmaster is also offering a new immersion-type water heater for sinks. An electric heater that automatically maintains sink water temperatures at from 80°F. to 190°F., it was designed for areas where automatic dish and pot washing facilities are not available and allows food service operators to wash and rinse in conformity with local health department codes without adding chemicals to the water. The

Libbey *Columbian* Tumblers...

attractive and durable, for the most economical restaurant and beverage operation



The complete line of Libbey Columbian Tumblers provides the right glass for every beverage. And because they're Heat-Treated, these tumblers stand up under hard usage . . . deliver an amazing number of servings to assure operating economy. Economy is assured by the famous Libbey guarantee: "A new glass if the rim of a Libbey 'Safedge' glass ever chips."

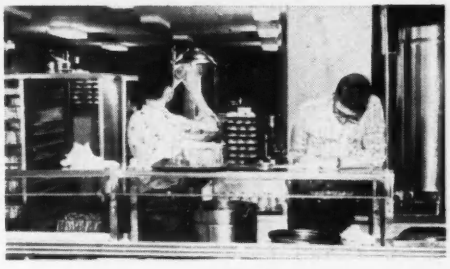
The attractive shape of Columbian Tumblers lends beauty to table settings, and every glass can be decorated with your crest or design for added prestige and distinction.

MAKE YOUR OWN SURVEY

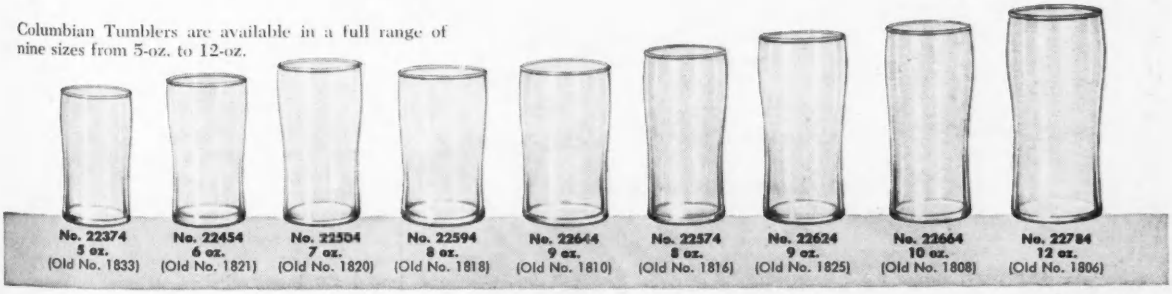
Check the durability and economy of Columbian Tumblers from the Heat-Treated mark on the bottom of every tumbler. Left number shows the year of manufacture, and right designates the quarter.

An audit of Libbey Heat-Treated DATED Glassware in restaurants of 7 major cities showed an average of 1,650 servings per tumbler at a cost of 5.2 cents per thousand servings.

See your Libbey Supply Dealer for details or write to Libbey Glass, Division of Owens-Illinois, Toledo 1, Ohio.



Columbian Tumblers are available in a full range of nine sizes from 5-oz. to 12-oz.



No. 22374 5 oz. (Old No. 1833)	No. 22454 6 oz. (Old No. 1821)	No. 22504 7 oz. (Old No. 1820)	No. 22594 8 oz. (Old No. 1818)	No. 22644 9 oz. (Old No. 1810)	No. 22574 8 oz. (Old No. 1816)	No. 22624 9 oz. (Old No. 1825)	No. 22664 10 oz. (Old No. 1808)	No. 22784 12 oz. (Old No. 1806)

LIBBEY HEAT-TREATED GLASSWARE
AN (I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

sink sanitizer fits any sink, 13 by 13 in. or larger. It is attached to the top of the sink back-splash by a mounting clamp adjustable from 10 to 25½ in. above the sink floor. The "U" shaped, single-plane element rests on the sink floor and allows utility baskets to sit flat without tilt or tip. The control box is closed and shielded from splashing water. It is equipped with a low-water shut-off which automatically stops the power flow if the sink water level falls below 2 in. As an added safety feature, only the bottom 3½ in. of the main shaft and the "U" shaped element that rests on the sink floor are heated.

A kit containing a new leaflet, "There Comes a Day—How Nutrition Affects Health, Appearance and Personality," has been prepared by *Sunkist Growers*. The six-page, three-fold leaflet in two colors is planned for use by teachers and others who work with teen-agers. Adolescence is a period of great growth in a short time. Adequate diets assure sound, well formed bodies, strong bones, a healthy nervous system, and good vitality. Daily nutritive needs are shown as food groupings with the purpose for each. The need of growing children for ascorbic acid which cannot be stored in the body is discussed. For a teen-ager, a medium orange provides 75 to 100 per cent of the recommended daily allowance. Good breakfast, luncheon, and dinner patterns are suggested, with advice on snacks, controlling weight, and a general discussion of how food affects good looks and good health. Other publications in the packet include "How to Un-Zip an Orange," "Sunkist Beverage Sampler," and "Saludos Amigos," a small recipe folder.

THERMcCOLD Junior Food Warmers have been added to the THERMcCOLD Hot 'N Cold Food Banks of *THERMcCOLD Corp.* Featuring individual compartment design for storing any assortment of hot cooked foods, the new warmer permits bulk portions of pre-cooked hot foods to be stored for later service at rush hours. Temperatures are thermostatically controlled between 100° and 200°F.; recommended temperatures range between 140°F. and 160°F. An automatic pilot light indicates whether heat is on or off. A dial-type thermometer is furnished to indicate exact temperature within the cabinet. The unit is available in an under-counter model for cafeteria lines, providing additional work table surface, pass-through models, mobile models to run between work area and serving line, and upright models to match present reach-in equipment. Remote and self-contained units are also available. Food warmers are constructed of heavy gauge stainless steel with edge-mount hardware designed to minimize projections in aisle arrangement layouts. Flush front drawers provide for bread and roll warming.

Lincoln Manufacturing Co., Inc., has recently put on the market a mobile "Port-A-Teria," designed to offer flexibility for serving à la carte meals. It is designed to accommodate pans of hot and cold food, as well as cartridges of dishes and can be used to serve up to 250 persons.

Packed in 3-lb. packages for institutional use only, the *Charles B. Knox Gelatine Co., Inc.*, has again made available its U.S.P. bone-type unflavored gelatin. The product is unusually quick-setting and of even texture.

Knox is also offering a packet of forty-eight quantity recipe cards for soups, aspics, relishes, entrées, salads, and desserts, such as chiffon pies, no-bake cheese cake, creams, whips, snows, and soufflés.

From the *California Prune Advisory Board* comes a new, thirty-four page booklet, *Full 'o Prunes*. Following three pages of descriptive text on what prunes are and how they are processed, recipes to fill many menu purposes are given, including: entrées and stuffings, relishes, salads, breads, desserts, cakes and cookies, pies and pastries, and beverages. The back cover is devoted to instructions on how to "plump and cook prunes" and a purchasing guide, indicating the number of prunes to a pound, according to size.

Write for free trial package

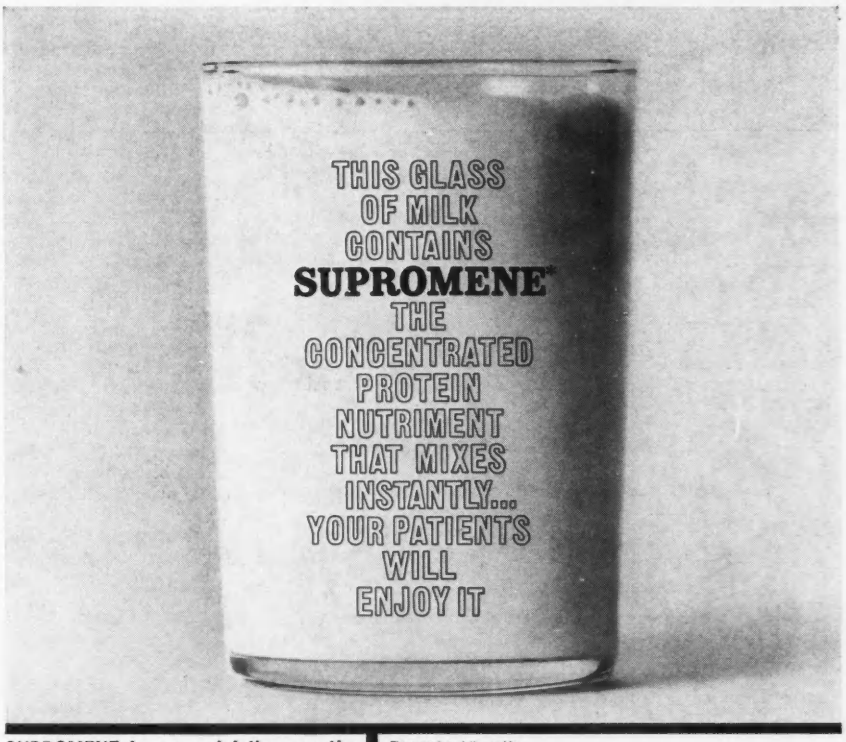
Continental Coffee

AMERICA'S LEADING COFFEE

for Restaurants, Hotels and Institutions

CHICAGO • BROOKLYN • TOLEDO • SEATTLE

Join us at the National Restaurant Show, Navy Pier, Chicago, Illinois, May 11-15, Booths C-64-68 and D-63-67



SUPROMENE is a special therapeutic product which is useful where physicians and dietitians consider high protein, vitamins and minerals important for nutritional needs in medical, surgical and obstetrical conditions.

Drug Products Division of
The E. Berghausen Chemical Co.
4538 West Mitchell Ave., Cincinnati 32, Ohio

free 1 pound can

Please send me a 1 pound can of new SUPROMENE Instant Mix

Name_____

Address_____

City_____

Zone_____ State_____

*TRADEMARK

Three servings daily provide—

	3 oz. SUPROMENE in 24 oz. Whole Milk	3 oz. SUPROMENE Contains:	24 oz. Whole Milk Contains:
Protein	54.5 Gm.	29 Gm.	25.5 Gm.
Vitamin A	7218 USP U.	6048 USP U.	1170 USP U.
Vitamin B_1	5 mg.	4.74 mg.	.27 mg.
Vitamin B_2	5 mg.	3.75 mg.	1.26 mg.
Vitamin B_6	2 mg.	1.66 mg.	.34 mg.
Vitamin B_{12}	4 mcg.	.03 mcg.	3.97 mcg.
Vitamin C	100 mg.	91 mg.	9 mg.
Vitamin D	615 USP U.	600 USP U.	15 USP U.
Vitamin E	5 I.U.	4.5 I.U.	5 I.U.
Calcium Pantothenate	10 mg.	7.53 mg.	2.48 mg.
Niacinamide	50 mg.	49.1 mg.	.9 mg.
Folic Acid	1 mg.	.099 mg.	.001 mg.
Calcium	1.89 Gm.	1.03 Gm.	.86 Gm.
Phosphorus	1.5 Gm.	.82 Gm.	.68 Gm.
Iron	15 mg.	14.4 mg.	.6 mg.
Copper	1.5 mg.	1.29 mg.	.21 mg.
Sodium	.77 Gm.	.417 Gm.	.354 Gm.
Iodine	.2 mg.	.05 mg.	.15 mg.
Fat	29.1 Gm.	.6 Gm.	28.5 Gm.*
Carbohydrates	82 Gm.	46 Gm.	36 Gm.
Cholesterol	83.5 mg.	2.5 mg.	81 mg.*
Calories	807 **	309	498

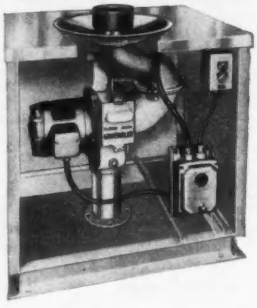
*Nonfat milk 24 oz. reduces the fat values to .6 Gm. and the cholesterol to 3. mg.
**Nonfat milk 24 oz. reduces the calories to 570.

Amino acid content of three servings —									
Arginine	Histidine	Isoleucine	Leucine	Lysine	Methionine plus Cystine	Phenylalanine plus Tyrosine	Threonine	Tryptophane	Valine
2.00 Gm.	1.29 Gm.	3.41 Gm.	5.73 Gm.	4.14 Gm.	2.2 Gm.	5.84 Gm.	2.45 Gm.	0.80 Gm.	3.70 Gm.

Supromene is prepared from nonfat dry milk, dl-methionine, malt, sucrose, ferrous gluconate, copper sulfate, vanillin, vitamin A acetate, irradiated ergosterol, thiamine mononitrate, riboflavin, pyridoxine hydrochloride, ascorbic acid, d-alpha tocopheryl acetate, calcium pantothenate, niacinamide, folic acid and cyanocobalamin. (25 lb. cans available to institutions)

every efficient kitchen operation requires a

GRUENDLER FOOD WASTE DISPOSER



Shown above is the most economical Gruendler Food Waste Disposer, Series C-150. It is the ideal equipment for establishments preparing and serving from 100 to 300 settings per hour. This disposer automatically mixes food waste with water while grinding it into a fine slurry to wash down the drain, thus ending food waste disposal problems once and for all.

The Gruendler line of disposers is larger than ever before. There are models available which will take care of table and food preparation wastes from up to 2000 meals per hour.

Why not write for Bulletin No. 124 showing our complete line? If you'll mention your maximum number of servings per hour, our engineers will be happy to recommend the right model for your consideration.

Gruendler Food Waste Disposers are built and backed by the manufacturer of Reduction Machinery since 1885.

Gruendler

CRUSHER & PULVERIZER CO.

2915 North Market
St. Louis 6, Missouri

Designed to replace the traditional enrichment wafer used by bakers, *Diamond Crystal Salt Co.*, has developed its "Enriched Bakers Salt," which is a vitamin- and mineral-coated fine flake, Alberger-processed salt. All vitamins and minerals required to meet the federal Standards of Identity for enriched breadstuffs are incorporated directly into the salt.

Universal Industries, Inc., has added a new floor model general mixer to its line of food mixers. Of 22-qt. capacity, it features a bowl which swings away from under the beater head for free loading and unloading, allowing beaters to be changed without removing the bowl. Variable speeds from 105 to 360 r.p.m. permit changes in speed without stopping. An automatic combination switch shuts off the mixer at a selected time. With attachments, the mixer can also be used as a meat chopper or vegetable slicer. Standard beaters available are wire, batter, 4-wing, sweet dough, pastry knife, or dough hook.

New recipe cards from *Ac'cent-International* include recipes for creamed chipped beef; baked, stuffed green peppers; eggs Florentine; and three vegetable entrées. Ingredients, weights, measures, and method are given for 50 portions. A portion-control chart for best use of *Ac'cent* indicates approximate yield, portion size, and the amount of *Ac'cent* required.

A new mobile, self-leveling tray dispenser manufactured by the *Lowerator Division, American Machine & Foundry Company* has a capacity from 90 to 150 trays. Tray sizes from 10 by 14 through 16 by 20 in. can be accommodated by standard models. Of stainless steel, the self-leveling rack carrier operates with calibrated springs, sprocket, and chain mechanics. A slide panel provides access to the springs for easy cleaning.

A second piece of wheeled equipment—a mobile, self-leveling cup dispenser—has also been introduced by *Lowerator*. The rack carrier holds up to 12 doz. cups, which are electrically heated with preheated air and thermostatically controlled up to 200°F.

Goren Packing Co., Inc., has added seafood products to its line of frozen meats and poultry. Now obtainable are: giant shrimp; jumbo and colossal breaded fantail shrimp; shrimp steaks; fish fillets; and raw and cooked fish sticks, all frozen by a super-speed, whirl frozen process and packed in uniform control portions.

National Canners Association has issued a booklet, *Score Your Own C.F.A. (Canned Foods Aptitude)*, the "gimmick" for which is a clever adaptation of the Rorschach ink-blot test. Tied to possible replies which might be given in describing the illustrated ink-blots are up-to-date facts about canned foods, as well as a history of canning from Appert through Pasteur to the modern pressure cooker.

The latest addition to *Pfaelzer Brothers, Inc.*, line of molded products is a blast-frozen hamburger steak molded in the shape of a boneless sirloin strip steak. This 8-oz. steak contains less than 15 per cent fat. Another newly introduced portion-ready item is blast-frozen sliced liver, molded in the natural half moon shape, de-veined and skinned.

Two new Franco-American products from *Campbell Soup Company* are now being marketed, Italian Style Spaghetti and Spaghetti with Ground Beef. Romano, Parmesan, and Cheddar cheese are added to spaghettini and tomato sauce for the Italian Style Spaghetti. Special seasonings and spices go into the tomato sauce. The Spaghetti with Ground Beef has morsels of braised beef added to the spaghetti. The new products come in consumer size, 15½-oz. cans.

A new soup formula is being used by *Campbell* for its Chicken Noodle Soup. This improved soup has a richer broth, more body, and more chicken flavor and has been proved superior by repeated test panels.

Modular, pedestal-type *Hotpoint* equipment is now available to form a compact "kitchen," 128 in. long. Such a combination would include a two-deck oven (with "windows" and interior lighting), deep-fat frying machine, 18-in. "spacer" which can serve as a table-top working area, and a range top. Other combinations, featuring the pedestal, working-level height are also available.

A new folder from the *Cereal Institute* recommends a moderate low-fat, well balanced breakfast of a basic cereal and milk pattern. A table of the Recommended Dietary Allowances is shown with comparisons of the basic breakfast suggested. Calorie count and fat content of several breakfast main dishes, including bacon, fried egg, pancakes, sausage, and waffles, are given.

The Sixth Annual Cereal and Milk Spring Festival to be held in April is jointly sponsored by the *American Dairy Association* and the *Cereal Institute*.

W. H. Frick, Inc., has introduced the mobile tray carrier and food dispenser, No. H 9-6. It has a capacity of six 15¼ by 20¼ in. or 16¼ by 22¼ in. trays.

An orange drink mix and a lemon drink mix have been introduced by *Continental Coffee Company*. One 12½-oz. jar of mix dissolved in water makes 1 gal. lemonade or orangeade. Both dissolve instantly and derive their flavor from fruit juices and oils and contain no artificial flavor. A 25-oz. container will soon be available for use in automatic mixing dispensers.

A new food carrier on a wheeled dolly which accommodates eight 12 by 20 by 2⅝ in. deep pans for hot or cold foods is offered by *Lincoln Manufacturing Co., Inc.* The hot food capacity is sufficient for 100, cold food for 200 servings. The carrier is of stainless steel and may be lifted from the dolly. It is available with or without dolly.